



NEWS



Vice-President G. S. Pathak, Chancellor of Panjab University, presenting a donation of Rs. 1 lakh for the National Defence Fund to Prime Minister Indira Gandhi at New Delhi. Mr. Suraj Bhan, Vice-Chancellor of Panjab University, is on the left.

Students and
Management

Teachers and
Politics

Minority
Colleges

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2. In addition to the pay the post carries D.A. and P.F. benefits according to rules. A higher start may be given to a specially qualified and experienced candidate.

3. Candidates selected for an interview will have to come to Sagar at their own expenses and to bring with them their original certificates, diplomas and other documents in support of their claims mentioned in their applications. In case of persons already in service, the application must be forwarded by a competent authority signifying approval to relieve the applicant, if selected.

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International University

By Dr PREM KIRPAL, Chairman, Executive
Board, UNESCO

The idea of launching an International University emanating from the Secretary-General of the United Nations, U Thant, and subsequently endorsed by the General Assembly of the United Nations, and the General Conference and Executive Board of UNESCO, is timely, imaginative and commendable. UNESCO's feasibility study concerning the establishment of an International University is thorough and helpful and its main conclusions could guide future developments. In spite of the shortness of time available for the feasibility study, it has accomplished its purpose, and clearly points to the need and feasibility of establishing such an institution and poses alternative models. The positive conclusion should be accepted by the Executive Board. I am in favour of the model designating the new institution as United Nations University functioning at the post-graduate level; multi-disciplinary, interdisciplinary and problem-oriented in approach; awarding no degrees and diplomas of its own and drawing scholars and faculty members for specified terms from their parent Universities; promoting a network of affiliated institutions engaged upon similar tasks in different parts of the world; and concentrating on research and teaching on problems concerning mankind as a whole. Larger consultations and more study are needed for developing the idea of a United Nations University, and making it a concrete project and programme of action. A worldwide movement, involving the scholarly community and those involved in international co-operation, towards the acceptance of the new idea and concepts, should be launched by the UNESCO which in this context must perform the role of leadership within the United Nations system. In advancing this movement relevant studies, reflections and discussions should be encouraged and, in particular,

the participation of youth secured from the very beginning.

The United Nations University can perform several tasks. Its establishment is justified by three urges and expectations gathering force in the world of higher education in our times:

(1) **The Search for Universality:** Great Universities have always been universal in character, but so far the element of universality has been reflected from within a particular culture and confined to only a segment of humanity. In the emerging world of tomorrow we will need institutions truly universal in character, reflecting the state of mankind as a whole and searching for human values and knowledge that is valid for all and available to all. Such a development will reduce the knowledge gap, now looking more threatening and ominous than even the economic gap.

(2) **Solution of World Problems:** The main concerns of the United Nations University and its affiliating institutions should be certain world problems, requiring concerted study and action, such as peace, development, human rights, environment, population, application of science and technology, exploration of the oceans and outer space, education, intercultural relations, international understanding, communication, and information systems, etc. These problems should be studied through research, teaching and reflections, the new institution developing new lines of communication and co-ordinating existing studies and programmes.

(3) **Renewal and Transformation of the Traditional University:** Inertia and ingrained conservatism obstruct change in the content and structure of higher education everywhere. The United Nations University would exercise a wholesome influence on existing institutions, encouraging innovation and mutual co-operation, and conforming to new aspirations and

orientations sorely needed everywhere. The development of a United Nations University network should provide significant opportunities and incentives to national and regional establishments of higher education.

The task is no doubt difficult and complex and considerable resources, both financial and intellectual, will be required. For evolving a realistic programme, I suggest phased action of the following order.

First Phase—Beginning: Immediately UNESCO should set up an Information and Documentation Centre to collect data concerning existing institutions and academic programmes related to the concept of the U.N. University. Some materials of this nature have already been assembled for the feasibility study, but a wider, deeper and continuing study will be needed. At the same time all bodies of the U.N. system should increasingly farm out their study and research projects to selected Universities and these activities should be systematized by devising a machinery for co-ordination within the UNESCO. While these actions can be taken immediately, steps to establish a co-ordinating and programming centre of the new University, with a Rector, a Faculty and a governing body, and stating a process of affiliating appropriate institutions and centres should be the beginning of the operation and this could be achieved in two or three years.

Second Phase — Development: With the experience of the first phase of starting the project and the availability of greater financial resources, it should be possible to establish new centres of research and training around the world and develop affiliating centres wherever feasible. The planning for these developmental programmes could start soon after the launching of the project.

Third Phase—Ultimate Objective: The ultimate objective of the movement towards a United Nations University network should be the transformation of higher education in content and structure everywhere to match new

knowledge and communications now growing at a fantastic pace with the emergence of a new universal man that is nowhere in sight. This is the great challenge. The achievement of this objective seems to lie in the distant future.

The feasibility study and the decisions taken on it both in the UNESCO and in the United Nations will give rise only to a broad outline of the project. Much preparatory work lies ahead. Right from the start one must be aware of the difficulties and the pitfalls. The unfettered academic freedom and full autonomy of the new University should be ensured to make it function in utmost objectivity. The choice of the Rector and the faculty should be determined only by academic considerations and the University should draw the best talent of the world committed to the service of mankind. The dead weight of bureaucracy should not creep in and the University should be sustained and developed through the fullest co-operation and involvement of the academic community; the refreshing contact with youth should never be lost. The phenomenon of the so-called 'brain drain' must be avoided or minimised. Plans should be realistic keeping in view the limitations of finance; perhaps funds shall come from three sources: contributions of member States participating; voluntary contributions; and matching funds from affiliating institutions. The University should have a wide scope of activities; not least important of which is to find practical solutions to urgent problems, the contemplation and reflection on the state of man, especially the synthesising of knowledge into wisdom.

I do not like very much the name suggested — the United Nations University. International University or World University offer alternatives. Whatever name is adopted, the new institution should in fact function and develop as the University of Man, working for new human values and new ways of transcendence. Education and inter-cultural re-

lations should be accorded due importance in its activities.

The idea of a World University attracts many Indians and some interesting developments in the same direction are already in progress. The most notable of these is the Jawaharlal Nehru University planned for inter-disciplinary studies of national and international problems contributing to the welfare and dignity of man. Other projects are being promoted or are under discussion. The Rama Krishna Mission at Calcutta has a scheme for evolving a School of World Civilizations and Cultures. The Auroville Project at Pondicherry stresses inter-cultural relations and practice of human values. The University of mankind and synthesised knowledge continue to appeal to the Indian mind today as they have done so powerfully in the past.

(Extracts from a statement during discussion of the International University Project.)

EXAMINATION REFORM

The University of Jammu like other Universities of the country had also been feeling some difficulties in the conduct of examinations under it. In view of this, the problems connected with the conduct of examinations were referred to the appropriate Committees who recommended the following steps for implementation. Action has been taken accordingly.

Tools of Assessment

It was not found possible to initiate radical changes in the setting of question papers. However, it was decided that at the post-graduate level, the syllabus to be sent to the paper-setters be accompanied by detailed notes which may serve as guidelines to the paper-setters in respect of the syllabus covered. This procedure has resulted in ensuring that the questions set are generally on the syllabus prescribed and covered.

The University has also introduced the system of internal

assessment in respect of practicals. 50 per cent of the marks prescribed for the practical papers have been allotted to internal assessment which is based on class performance, periodical tests and attendance. The record maintained by the colleges and the post-graduate Departments is annually inspected by a team of inspectors appointed by the University.

Steps with regard to the re-designing of the question papers will be discussed in a Seminar on Examinations which is being held in the month of December and necessary follow-up action taken.

Assessment

The system of table marking has been introduced. The Head-Examiner and the Sub-Examiners sit together and arrive at the standard of scoring to be followed with respect to their subjects. The Head-Examiner supervises the scoring of the answer books and is authorized to revise upto 20% of the scripts examined by the Sub-Examiners. He himself cannot examine more than two hundred scripts under any circumstances.

The maximum number of scripts that can be examined by a Sub-Examiner has been fixed at 300. The maximum number of scripts that can be examined by him in a day has also been fixed and the Head-Examiner is required to exercise supervisory control in respect of both.

A scheme of Code Roll Numbers has been introduced for all examinations conducted by the University.

Conduct of Examinations

Conduct of examinations has been de-centralized and the Principals of the affiliated colleges and the Heads of the post-graduate Departments have been given the over-all charge of the examinations conducted in their colleges or Departments.

The overall incharges are required to be present on all the days of examination and are res-

ponsible for their smooth and fair conduct.

Superintendents and supervisors are appointed out of the teaching staff of the Departments and the colleges.

Members of the teaching staff are also put on duty outside the examination centres to prevent external interference by students and to prevent any unfair means or material being smuggled in or out of the examination halls.

The proportion of the supervisors has been increased from one supervisor for 40 students or a part thereof to one supervisor for 30 students or a part thereof.

Before the commencement of the examinations, a meeting of the superintendents and the inspectors of the Centres is convened to brief them about the conduct of examinations.

The Inspectors of the Examination Centres have also been authorized to charge the members of the supervisory staff if and when found negligent in the performance of their duties under the rules of the University.

The girl candidates are provided with separate centres.

Department-wise examinations are conducted in respect of the post-graduate Departments. Senior teachers of the post-graduate Departments and even the Heads of Departments are appointed as superintendents in respect of these Departmental examinations.

The Law and Order authorities are associated with the conduct of examinations in the manner given below:—

(i) Adequate police arrangements are made outside the examination halls.

(ii) Flying squads with a Magistrate are deputed to visit the institutions where examinations are being conducted in order to round up the rowdy elements and take on-the-spot action.

(iii) Special police contingents with an officer are put on duty at difficult centres.

Senior teachers from the University are deputed to pay surprise

visits to the Examination Centres constituted at the mufussil colleges and other institutions to help the superintendents in preparing cases of unfair means.

The Vice-Chancellor also pays surprise visits to some of the local examination centres.

The help of the Administration Department (Colleges) has also been sought. The Additional Secretary to the Government for Higher and Technical Education is a member of the panel of inspectors. His involvement encouraged the college teachers to accept the supervisory appointments of the University.

EVALUATION METHODS IN ENGG. EXAMS.

A two-day seminar on 'A Review of Evaluation Methods in Engineering Examinations' was held at the Sri Venkateswara University, Tirupati, on November 25-26, 1971. The Seminar was inaugurated by Dr A.S. Adke, Vice-Chancellor, Karnataka University and was presided over by Dr. D. Jaganatha Reddy, Vice-Chancellor, S. V. University. In his inaugural address Dr. A. S. Adke stated that the basic question is to define the objective of the Engineering education and that on the nature and scope of this definition depended the programmes and procedures of instruction. Among other things he stated was that, at this stage, the Indian Universities should not adopt the German Semester System where only internal teachers are examiners, as this involves the question of integrity which the Indian teachers have yet to establish.

Dr. D. J. Reddy, in his presidential address, stated that the efforts of the teaching community should be directed towards producing good engineers for the development of the country. He felt that there have been several drawbacks in the examination systems, and as a remedy he proposed the introduction of continual internal assessment.

Dr. W. Hill (USEFI), the Seminar Consultant; Prof. A. P. Jam-



Dr. Reddy addressing delegates. Seated L. to R. : Prof. G. Ramakrishna and Dr. A. S. Adke

bulingam, Principal, T. T. Training Institute, Madras; Prof. N. Siddheswar, Professor of Mechanical Engineering, Regional Engineering College, Warangal; Prof. M. Venkataratnam, Head of the Department of Civil Engineering, Warangal, were amongst those participating.

Over the Plenary Session held on the afternoon of the 26th, Dr. D. J. Reddy presided. After the Chief Rapporteurs (Prof. P. S. Rau, Theory Subjects; Prof. K. Gopichand, Laboratory Training and Tutorial Work; and Prof. K. Srirama Sarma) read their reports, the Vice-Chancellor concluded a brief discussion on important points raised in the reports.

Dr. Hill in his remarks appreciated the Vice-Chancellor's initiative in the organization of the Seminar and said that while very many important topics were discussed during the two days, he felt as if nothing materially was done on 'Evaluation in Engineering Examinations'. He opined that sessional work must be given equal importance besides the University theoretical examinations.

Dr. Reddy, in his concluding remarks, said that Internal assessment should be taken into consideration for promotions and *viva-voce* examination must also be introduced in the Engineering

examinations. He suggested the establishment of curriculum cells and the maintenance of record books as appropriate schemes to improve the instruction pattern in Engineering colleges.

BREAK-THROUGH IN FOOD PRODUCTION

Under the Chairmanship of Dr B. Appala Naidu, Director of Extension, Andhra Pradesh Agricultural University, the results of the National Demonstrations on multiple cropping were reviewed on November 27, 1971.

The objective of the national demonstrations continues to be the transfer of new knowledge to farmers in order to help them and educate them in maximising the agricultural production in a unit area per unit of time. In addition, these demonstrations also act as a motivating force to adopt new technology by other farmers in the agricultural production programmes.

The Andhra Pradesh Agricultural University (APAU) has been leading the other States in the country in this educational effort. It has been substantially contributing to the increase in the acre yields. This programme is in operation in fourteen districts of the

State with about 80 demonstration centres covering various crop rotations, with greater emphasis on multiple cropping with two to three crop rotations. Of this total number there are forty-seven demonstrations with two crop rotations and twenty-nine with three crop rotations. Hyderabad, Kurnool, Chittoor and West Godavari are the four districts where a larger number of demonstrations are being laid out and are chosen for intensive work.

The review of the results of these national demonstrations indicated that it is possible to grow crops and achieve higher yields all the year round with efficient utilization of resources and adopting a package of practices like suitable crop rotations.

An important example in this effort has been that of Mr S. Ranganayakulu Chetty, a progressive farmer of Mangalanpet village of Pulicherla block of Chittoor district, who has successfully produced a total yield of 227 quintals of grain per hectare by growing three crops of paddy. This farmer grew the high-yielding varieties of IR-8 followed by IR-20 and ADT-27 and all this in about 375 days.

Similarly Mr S. Narayan Reddy of Tiruchanoor village in the Chandragiri Panchayat Samiti of Chittoor produced a total of 201 quintals per hectare. This farmer followed a three-crop rotation growing IR-20 paddy as the first crop, followed by TMV-2 groundnut in the second crop season and IR-20 paddy again.

Hyderabad district could be proud of Mr Atluri Haripurushotham Rao of Kandlakoya village in the Medihal Panchayat Samiti who obtained a total income of Rs 5,655 per hectare by growing IR-8 paddy followed by onion in the second crop. This progressive youth produced a total yield of 106 quintals of paddy per hectare and 123 quintals of onions in the same area as a second crop.

Mr Dasari Prakash Rao of Munipalli village in Bapatla taluk in Guntur District proved that it is possible to produce about 63 quintals of paddy per hectare in

the first crop and 306 quintals of tomato in the second crop by following improved agricultural practices.

All in all, what has been clear in these demonstrations is that there is ample potential to produce more per unit area of land in a unit time provided the technical know-how reaches the farmers in time as is being done in the National Demonstrations Programme conducted by the A.P. A.U.

COMMERCIAL FARMING

The Andhra Pradesh Agricultural University, with the financial assistance of the Ford Foundation, is operating a project on Farm Record and Business Management in the Intensive Agricultural Development Programme (IADP).

The project has been initiated to provide answers for the intricate questions of establishing a 'viable economic unit' in farming under current conditions and also to study how best small farms, now generally supposed to be not viable, could be made 'viable' and more productive.

It is also felt that the results of research under the project would provide accurate financial record and the related analytical information so that the farmers could be better educated for taking to agriculture more as a business rather than as a way of life.

The project operates under the administrative control of the Officer-in-Charge, Agricultural Research Station, Maruteru, West Godavari District and under the technical guidance of the Professor & Head, Department of Agricultural Economics and Statistics, and the Director of Research, APAU at Rajendranagar.

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Young Scientists' Exchange

Dr Colin D. Flint, lecturer in Chemistry at Birkbeck College, London, is now on a visit to a number of Indian Universities and other institutions on a two-month professional tour.

Dr. Flint, 28, is visiting India under the Younger Scientists Exchange Scheme, a joint venture of the University Grants Commission of India and the British Council to promote mutual understanding and the forging of professional links between younger scientists from British and Indian Universities. Opportunities are provided under the scheme for scientists to undertake short research and teaching assignments in each other's countries.

Dr Flint will give a series of lectures at the Department of Inorganic and Physical Chemistry of the Indian Institute of Science in Bangalore, the University of Rajasthan, Jaipur and Punjab University, Chandigarh. He also plans to visit the Tata Institute of Fundamental Research, Bombay, the Atomic Energy Authority, Trombay, and the Indian Institute of Technology, Kanpur.

His lectures will deal mainly with 'Luminescence and relaxation phenomena in transition metal compounds', a subject which is relevant to colour television, laser action and pharmaceuticals.

Collaboration in research

Dr Flint hopes to make other visits to Mysore and Madras, Agra and Delhi. To further the existing long and close relationship between Birkbeck College and the Indian Institute of Science, Bangalore, he is to take part in the Institute's research and teaching curriculum on modern spectroscopic techniques.

'My purpose on this exchange visit is to see something of the academic and cultural life of India and to collaborate in research projects of mutual interest. I shall also take part in research seminars and have informal discussions with Indian colleagues,' Dr Flint said in an interview in London. 'I also

hope to make scientific contacts with the outstanding School of Solid State Spectroscopy at Bangalore and to improve my knowledge of rare earth chemistry. India is especially well endowed with mineral deposits containing these important elements.'

Dr Flint took his first degree at London University's Imperial College of Science and Technology, and completed his Chemistry research for his Ph.D. degree in 1967. In the same year he went to the University of Copenhagen under a post-doctoral fellowship, working with Prof. C. J. Ballhausen, a world authority on transition metal luminescence, and has since continued research in that area after joining Birkbeck College in 1969. He has written some 17 international scientific papers.

FIRST UNIVERSITY CHAIR IN COMMONWEALTH LITERATURE

The first Professional Chair in Commonwealth Literature anywhere in the world has been established at Leeds University.

Professor William Walsh, Professor and Head of the Department of Education at the University, will be the first holder of the appointment.

Leeds University pioneered the worldwide study of Commonwealth literature in the 1950s. Professor A. N. Jeffares, Professor of English Literature, said: 'My colleagues and I are confident that this appointment will give an impetus to the work in Commonwealth literary studies. Our hope is that in future they will be more closely combined with the traditional study of English Literature in Leeds.'

Professor Walsh, 55, is a distinguished literary critic with an interest in connections between literary and educational studies. He has visited Universities in India and Australia.

CONCEPT OF CULTURE IN INDIAN TRADITION

Professor Dr Nihar Ranjan Ray, formerly Director of the Indian Institute of Advanced Study, Simla, delivered a talk on the 'Concept of Culture in Indian Tradition' on November 13, 1971, under the auspices of the Faculty of Indic Studies of the University.

Professor Ray dwelt on the traditional Indian meaning and interpretation of the term 'Culture' through the ages. He said that the word is too often used either vaguely or erroneously. In fact, the equivalents of the term may be found in two Sanskrit terms 'Krishti' and 'Sanskriti' occurring, for the first time, in the *Atharva Veda* and the *Aitareya Brahmana* respectively. 'Culture', derived from the Latin 'Cultus' (German 'Kultur'), originally meant 'cultivation', the purpose being not only to sow the seeds but also to improve qualitatively and multiply quantitatively. The scientists, zoologists and bacteriologists use the suffix 'culture' in such words as agriculture, horticulture, blood-culture etc. with this very idea.

In Europe, later on, the sense of 'culture' came to be narrowed down to mean either a religious or sectarian 'cult' or, in urban communities, just certain personal refinements of etiquette.

'Culture', Professor Ray said, has a comprehensive connotation, and is a dynamic concept, embracing the totality of life. It undergoes continuous metamorphosis through the ages.

UNIVERSITY NEWS

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Three years	Rs 25
Five years	Rs 40
Single copy	80 Paise

The 8th Inter-College Youth Festival of this University was held from October 21 to 24.

Dramas in English and Hindi, debates in English, Sanskrit, Hindi and Punjabi, folk and classical music and dance, a poetry symposium and an art exhibition were held for which prizes were given.

Mr B. N. Chakravarty, Governor, Haryana and Chancellor of the University presided over the Annual Family Planning Debate under the auspices of Kurukshetra University Planning Forum on October 28.

Mr B. N. Chakravarty also laid the foundation stone of the University auditorium.

The Department of Political Science of the University organized a symposium on the Indo-Soviet Treaty on November 10, 1971. The participants from the Department were: Professor S. C. Singh, Dr V. S. Budhraj, Dr Surendra Chopra and Mr N. N. Srivastava. Among those who participated from other Departments and Universities were Professor V. N. Dutta of the History Department, Professor Abdul Majid Khan (Simla), and Professor I. P. Sinha (Muzaffarpur). Dr S. K. Dutta, Vice-Chancellor of the University, presided over the meeting.

Views both for and against the treaty were expressed, ranging from a lack of common cultural background to a similarity in historical evolution between India and the Soviet Union.

MADURAI

The Madurai University has introduced correspondence courses this year for awarding degrees in Bachelor of Arts. The subjects taught under Part III in the correspondence course are: History, Politics and economics.

Candidates who have passed the Pre-University examination of this University or any other examination conducted by any other University or Board that is considered equivalent to the Pre-

University class of this University are permitted to join the correspondence course. The syllabus and regulations for this course are the same as those prescribed for candidates appearing for the B.A. degree examination through regular colleges. Candidates admitted for this course should offer Tamil under Part I of the degree.

1,051 candidates have been admitted to the course as follows:

	English medium	Tamil medium
Br. I History	322	225
Br. II Politics	28	11
Br. IV Economics	398	67

It has been planned to extend the correspondence course for the Pre-University in Tamil and English mediums from the next academic year.

What's Happening On Campuses

A department of Sanskrit has been opened in the University from the academic year 1971-72. At present the department is functioning as a Research Department.

Under the auspices of the Madurai University National Service Scheme, help was given to house-holders in kitchen gardening, small savings scheme etc. in collaboration with the District Agriculture Officer, Deputy Director of Animal Husbandry and Regional Deputy Director of National Savings. The officials of the Departments concerned accompanied the students to the suburban colonies of Madurai city and gave their suggestions personally to the householders. They distributed agricultural implements like mampatties, hand hoes, hand racks, rose can seeds, seedlings etc. at 50% subsidised cost. They helped the public in preparing lay-outs for kitchen

gardens. With the assistance of veterinary officials the students vaccinated cattle. Students of Madurai University brought the officials of these Departments to 30 colonies according to the scheme.

On behalf of the Youth Welfare Department in the University a seminar in connection with Remedial Study was also held on September 13, 1971 in St Justin's Teacher's Training college, Madurai.

The Administrative section of the University will be shifted to the new campus at Nagamalai, Pudukkottai (eight miles from Madurai city), in January 1972. The Faculties and the Library will be shifted in May 1972.

SOUTH GUJARAT

With a view to further supplementing the progress achieved by the Summer Institutes in English Language Teaching for college teachers organized in 1970 and 1971, the University Grants Commission has sanctioned one more such Institute to be organized in April-May, 1972 at Surat.

Out of the different development proposals submitted to the University Grants Commission for the Fourth Plan Period, the following are already approved:

Project	Estimated Cost Rs.	U.G.C. Share Rs.
Humanities Building	5,00,000	5,00,000
Basic Science Building	7,80,000	7,80,000
Central Library Building	7,50,000	5,00,000
Business and Industrial Management Building	4,82,000	4,82,000

The University Grants Commission has also approved the scheme for establishing the Department of Continuing Education and sanctioned a grant of Rs. 2,58,000 for the same.

The Department of Public Administration has undertaken a

research project on 'Leadership in Panchayati Raj', which covers the study of the working and social, professional, religious and racial aspects of 2 Districts, 4 Talukas and 40 Village Panchayats. This project of 1½ years' duration is financed by the Indian Council of Social Sciences through a total grant of Rs 47,880 and the work has started under the directorship of Dr H. J. Pandya, Head of the Department.

The Department of Sociology has undertaken a survey of the economic, social and educational aspects in the life of local Harijan workers and also a study entitled 'Economic Advancement Precedes Educational Development in a Backward Community'.

With a view to falling in line with the other Universities and the policy adopted by the Government it is decided to start a Pre-Medical Course from June 1972.

J. N. K. V. V.

A workshop on improvement of undergraduate teaching in Zoology and Entomology was organized in the University from October 28 to 30 with delegates from Indore, Raipur, Sehore and Jabalpur Universities participating.

Dr M. L. Purohit, Professor and Head of the Department of Entomology and Zoology, stressed that knowledge of basic sciences like Zoology was a prerequisite to studying Entomology, Anatomy, Parasitology and Animal Husbandry. Dr M. B. Russell, due to whose efforts this workshop was organized, stressed the need for making the academic climate suitable for students to learn through their various senses by doing things rather than hearing about them.

Dr R. P. Jyotishi, Associate Dean, College of Agriculture, Jabalpur, welcomed the start of such workshops. Discussions on various topics like the change expected to be brought about in a learner at the end of a course, methods to improve practical training, use of audio-visual aids etc. were held. The workshop prepared an agreed break-up of

courses, detailed objectives, principles of designing valuation tests, a list of reference books etc. and opined on the role of manuals as teaching aids.

The Vishwavidyalaya has evolved an early maturing variety of cotton for dry-land farming in Madhya Pradesh, called Khandwa-2, giving 100 per cent yields and with superior length and ginning percentage.

SAURASHTRA

The foundation stone of the Rs 9 lakh administrative building of Saurashtra University was laid at Bhavnagar on October 4, 1971 by the State Governor and the Chancellor of the University, Mr. Shriman Narayan, at a function arranged in the University campus.

The building will accommodate all the administrative departments and a Senate Hall.

Referring to the proposed residential University at Bhavnagar, Mr Shriman Narayan hoped that the new University would fulfil its great responsibility and would develop high academic traditions at Bhavnagar where Mahatma Gandhi studied in Samaldas College. Further Mr Shriman Narayan offered his help and co-operation in the smooth working of the University.

Mr A. R. Baxi, Vice-Chancellor of Saurashtra University, welcomed the Governor. Mr Harbhai Trivedi, prominent educationist and Pro-Vice-Chancellor of Saurashtra University, gave a detailed account of the proposed residential University at Bhavnagar and thanked the Governor on the occasion.

ANDHRA

A Seminar and workshop on the Examination System was organized on the campus, at which nearly 60 University teachers, two from each Department, were represented, from December 13 to 17. The objects of the Seminar were: (1) to evaluate

the current examination system in the Universities and (2) to consider criteria for devising an objective examination system.

Shri L. Bullayya, Vice-Chancellor, inaugurated the Seminar. Dr Walter Hill of Michigan University conducted the Seminar.

The University Grants Commission has agreed to provide assistance upto Rs 5 lakhs for a period of 4 years for introducing correspondence courses in Arts and Commerce at the undergraduate level.

Prof. S. Bhagavantam, Indian Institute of Science, Bangalore, delivered a lecture under the Sri Alladi Krishna Swamy Aiyer Endowment Lectures on 'Technological Civilization and Quality of Human Life'. In his lecture he emphasised the crucial difference between growth which refers essentially to material comfort and progress which, in addition, has relevance to the quality of man. Technological revolution, while it has yielded the roses of material comfort, is bound to bring with it the thorns of spiritual degeneration in man. India needs a rapid technological change to give relief to man from the grinding poverty, but at the same time it should ensure that the spiritual life, to which ancient India has paid high regard, is not debased. This is a challenge to the elite of India.

The Teachers' Association and the Faculty Club of the University felicitated Shri L. Bullayya, Vice-Chancellor, Andhra University, Waltair on his reappointment for a second term of three years by the Government of Andhra Pradesh. The Association and the Club expressed their appreciation of the reconstruction, growth and stability achieved by the University under the leadership of Shri L. Bullayya. Shri Bullayya thanked the members of the staff for the solid support given to him during the period of his first term and expressed his hope that it might be possible to establish new Departments in transport, engineering, genetics, printing technology, Journalism, development administration, con-

tinuing education etc. in the next three years.

A Sanskrit University is proposed to be established in Andhra State to start functioning from June 1972. The site for the University is still under consideration.

SRI VENKATESWARA

The Sri Venkateswara University Post-Graduate Centre which was functioning in Anantapur till July 1971 was inaugurated at its new site in Sri Venkateswara Puram on November 20, 1971. Sri P. V. Narasimha Rao, Chief Minister of Andhra Pradesh, presided over the function and declared open the Humanities Building. Sri V. V. Subba Reddy, Deputy Chief Minister, Sri P. Basi Reddy, Minister for Law, Sri C. Subba Rayudu, Minister for Civil Supplies associated themselves with the function and declared open the Physical Sciences building and the residential quarters. Bhagwan Satya Sai Baba was present on the occasion and blessed the Centre.

The Vice-Chancellor in his welcome speech referred to the great help rendered to this Centre by the University Grants Commission and the State Government and hoped that the five disciplines now offered will be increased to eight in July 1972 by the addition of Commerce, Economics and the Life Sciences.

The Chief Minister expressed his happiness that, of the three University Centres in Andhra Pradesh, the one at Sri Venkateswarapuram had its own handsome buildings.

MARATHWADA

Under the scheme of Gandhi Centenary Celebrations, Marathwada University has adopted a village by name Patoda situated about six miles from Aurangabad, with a view to bringing about all-round development of the said village, involving students and teachers in the process. The second aim of this project is to establish close contact between the

educated youth with the villagers and to create young leadership inspired with the motto of social service.

The Financial Assistance for this project has been secured from the University Grants Commission and the local Panchayat Samiti. The first Camp of 20 days was organized in May 1971 during which a school building has been constructed in the village with the help of 'Shramdan' by the students.

The new Vice-Chancellor of the University, Shri R. P. Nath, is taking keen interest to expedite the implementation of the Scheme. He inaugurated the second Camp on November 11, 1971 for this purpose to complete the construction work of fifteen hundred feet of drainage pipes with a view to providing cleanliness and better sanitary conditions in the village.

It is also proposed to undertake a geological survey of the village with a view to provide guidance to the villagers for growing the crops suitably. The villagers are extending full co-operation to complete the schemes.

P. A. U.

Dr M. S. Randhawa, Vice-Chancellor of the University, inaugurated the first all-India symposium on pesticide residues analysis at the University. Representatives of the Central Food Technology Research Institute, Mysore; Indian Agricultural Research Institute, New Delhi; Union Ministry of Health; National Institute of Occupational Health; Post-graduate Institute, Chandigarh; Central Toxicology Research Institute, Lucknow, and other Universities took part in this 2-day function.

Dr Randhawa said that considerable research work had been done at the Central Food Technology Research Institute, Mysore, Indian Agricultural Research Institute, New Delhi and PAU, Ludhiana, to collect the basic data required for guarding against the hazard of contamination of foodstuffs by pesticides. After examining this data and other information available through

WHO and FAO, Punjab State had decided to recommend malathion as a grain protectant. He hoped that other States and the Central Government would also do this in order to reduce the intake of pesticides like DDT through food. The level of DDT in human fat in India was the highest in the world, he said.

The enforcement of the Insecticide Act from August this year, Dr Randhawa said, was a beneficial step in this direction.

CALCUTTA

The Calcutta University Academic Council has decided to hold separate examinations for the regular and external students appearing in M.A., M.Com. and M.Sc. in Pure Mathematics. This will be effective from the examinations of 1972.

SHIVAJI

The second Leadership Training Camp of student-leaders in the Shivaji University area was held on the 13th and 14th of November, 1971. Dr A. G. Pawar, the Vice-Chancellor of the University who inaugurated the camp, urged the student-leaders to equip themselves well to play their part effectively. Free and frank discussions were held by the student-leaders and the teachers who had accompanied them, on such important subjects as the duties and functions of student-leaders, execution of N.S.S. projects, etc. Prof. D. S. Pingree of the Tata Institute of Social Sciences, Bombay, participated in the camp and also addressed the students. The valedictory address was also given by the Vice-Chancellor.

PANJAB

Mr Suraj Bhan, Vice-Chancellor of the University, announced the introduction of post-graduate science and professional courses while inaugurating the first Instructional and Personal Contact Programme of the Panjab University Directorate of Correspon-

dence Courses on October 31, 1971.

The first All-India Congress of Cytology and Genetics, sponsored by the Society of Cytologists and Geneticists, was held at the University.

OSMANIA

Two Plant Geneticists of Osmania University, Dr. G. Madhava Reddy and Mr. T. Papi Reddy, have achieved a genetic breakthrough which results in evolving the common man's coarse rice known as IR-8 into a superfine grain without reducing the high yield potential.

U.P.A.U.

The Society of Indian Plant Virologists along with an official organization 'Phytovirology' is proposed to be started from January 1973. All those interested in the advancement of this branch of science and holding a degree in science or agriculture are eligible to become members of this society. Further details can be had from the Convener, R.N. Singh, Department of Plant Pathology, U.P. Agricultural University, Pantnagar, Distt. Nainital.

O.U.A.T.

The Extension Education Division of the University has opened a Farmers' Hostel to accommodate farmers for in-campus training. Independent accommodation for research and extension wings of the University have been provided to facilitate better co-ordination and execution of the work.

To make the students of the Agriculture Faculty production-oriented, it has been decided to allot to them 100 acres of land from the Central Farm. A committee with the Deans and the senior members of the staff has been constituted to prepare a scheme to train the students in the techniques of commercial production of field-crops and their profiteering potentialities.

The University for the first time published a half-yearly research journal which was formally released at the University on September 28, 1971 by Mr S. K. Mukerjee, Asstt. Director-General, I.C.A.R.

The University Variety Release Committee has released three paddy varieties, namely, OR 5-11 (Heina), OR 10-112 (Kumar) and OR 10-193 (Rajeswari). OR 5-11 is a cross of T-141 and IR-8-246 suitable for medium-type land, highly resistant to bacterial leaf blight but susceptible to stem borer, taking about 135 days for maturing and recommended for cultivation during the Kharif season. Its height is 80 to 90 cm. and it gives 90 maunds of grain per acre.

OR 10-112 is an early variety, a cross of T-90 and IR-8 suitable for high to medium land, moderately resistant to bacterial blight and stem borer, taking 120 days to mature, yielding 70 maunds of grain per acre and recommended for cultivation in the Kharif and Rabi seasons.

OR 10-193 is a mid-season variety, a cross of T-90 and IR-8 suitable for medium type of land and recommended for the Rabi and Kharif seasons, moderately resistant to bacterial blight, stem borer and green leaf hopper, taking about 130 days to mature and yielding up to 90 maunds per acre.

S.N.D.T.

A batch of 42 N.S.S. volunteers of Shri Chhatrapati Sambhaji Maharaj Vastu Sangrahalaya, Mumbai attended the Refugee Relief Camp at Mana, Raipur District, from 6 to 14 November, 1971. The volunteers participated in the following five main activities:

(i) Hospital Work: A group of students worked as helpers to nurses and assisted hospital authorities in maintaining order and preparing records of births and deaths.

(ii) Programme for Children: A batch of students organized games and play activities for children.

(iii) Construction Work: A batch of students assisted other volunteers in constructing a big pit for refuse.

(iv) Social Case Work: The camp authorities were at times finding it difficult to communicate with the women in the camp. The students talked with them on various problems and tried to generate confidence in them.

(v) Survey Work: The activity in which the entire unit participated was the collection of census of the camp residents. The volunteers visited 600 tents and collected information of 1,453 families.

A short-term course on 'Family Living' will be held between January 10 and February 16, 1972 by the University as a part of its programme of Continuing Education. The course is specifically designed for the housewives to offer them basic information on several aspects of family living. There will be related demonstrations, exhibitions and films to give a practical orientation to the course wherever possible.

B.I.T.S.

The Department of Biological Sciences of the Birla Institute of Technology and Science has been allotted a research project on the morphological, anatomical and physiological studies of Spruce and other gymnosperms. The financial support for the research project has been made available by the PL 480 funds. Professor S. K. Pillai, Head of the Department, and Dr B.D. Deshpande of the Department of Biological sciences would be in charge of these investigations. The gymnosperms are an important group of plants which grow luxuriantly in our forests and yield good quality timber. However, these trees do not grow continuously because their growing species exhibit periodic dormancy, which retard growth and reduce timber production.

The main objective of the investigations which are going to be undertaken here is to determine the causes leading to dormancy the apical meristems.

Colleges Run By

Minorities

By T. K. TUKOL, Vice-Chancellor, Bangalore

In India, apart from the State Governments, many religious organizations have started colleges of their own for preservation of their culture, language and for study of their religion. Some of the institutions, markedly prominent, are those started by communities like the Arya Samajists, Brahma Samajists, Christians, Jains, Muslims and Sikhs which are minority communities in different parts of the country.

One of the subjects to which the founding fathers of our Constitution addressed themselves was the rights and privileges which the minority communities enjoyed at the date of Independence and which deserved to be guaranteed under the Constitution. Though democracy is the rule of the majority, it should not disregard the rights and aspirations of the minority. Every citizen must have an assurance of equality of treatment and of opportunity to enable him to develop his own personality, to discharge all the obligations of loyal citizenship. Education is the foundation of all progress and it is the duty of the State to afford all reasonable facilities by establishing institutions for instruction in all branches of knowledge and skills. Such institutions may be started by the communities also.

It is here that the question of protection for minority institutions arises. Article 29 of the Constitution protects the cultural and educational rights of minorities. It lays down that any section of the community residing in the territory of India or any part thereof shall have the right to conserve its own distinct language, script or culture. The second clause prohibits denial of admission to any educational institution maintained by the State or receiving aid from State on grounds only of religion, race, caste, language or any of them. It is thus clear that every minority community which wants to preserve its language,

script or culture is free to do so without unreasonable fetters from the Government. Besides, a person possessing necessary qualifications of eligibility cannot be refused admission to institutions maintained by the State or with its aid only on grounds of religion, race, caste, language or any of them; in other words, every eligible person is entitled to admission to such institutions.

The right of minorities to establish and administer educational institutions of their own is enshrined in Article 30 of the Constitution. Since the Article furnishes the key to the problem of relevant minority rights, I quote it in its entirety:—

Article 30 (1): All minorities, whether based on religion or language, shall have the right to establish and administer educational institutions of their choice.

(2) The State shall not, in granting aid to educational institutions, discriminate against any educational institution on the ground that it is under the management of a minority, whether based on religion or language.

This Article is included in Part III of the Constitution which deals with the Fundamental Rights of Citizens. The rights mentioned therein are fundamental, i.e., very vital for the advancement of the welfare of every citizen in economic, political and social fields. The rights are fundamental in another sense also: they can be enforced through a court of law.

Clause 1 recognises the right of a minority community to impart instruction to the children of the community in its own language in institutions run by it and to enforce this right, if it is violated, by seeking appropriate relief through a court of law. Under Clause 2, the State is prohibited from discriminating against such an institution in the matter of granting aid. Articles 29 and 30 create separate rights. While Article 29 grants general protection to minorities to conserve their language, script or culture, Article 30 recognises the special right of minorities to establish institutions of their choice to preserve their language or religion. With reference to the Kerala Educational Bill (1959 S.C.R. 995), the Supreme Court recognised that, in granting aid, 'the State may prescribe reasonable regulations to ensure the excellence of the institution'. The judgment in the case affirms that 'all minorities, linguistic or religious, have an absolute right to establish and administer educational institutions of their choice; any law or executive direction which seeks to infringe the substance of the right would be to that extent void'. It is, however, open to the State to make regulations in the true interests of efficiency of instruction, discipline, health, sanitation, morality or public order and the like. (1963 (3) S.C.R. 837).

The reorganization of States on a linguistic basis in 1956 is an event of vital significance to the country. Prior to this reorganization, English was the sole medium of instruction and administration in every State. The use of a common language throughout the country ensured mobility of students and teachers

from one part to the other. All colleges with emphasis on different languages or subjects were affiliated to a University within a State. But with the new States coming into existence, colleges established by linguistic and religious minorities providing for instruction through the language and script of their choice are required to change their affiliation to a University prescribing a different medium of instruction. The rights of minorities protected under the Constitution are of a minority community based on language or religion. As regards the former, the community cannot be asked to change its medium to the regional language which may be the medium of instruction in the University under which it might come. As the Supreme Court has said in *D.A.V. College versus The State of Punjab* (W.P.S. 353 and 354 of 1970 decided on 5-5-1971): 'No inconvenience or difficulties, administrative or financial, can justify the infringement of the guaranteed rights. It is also worthy of note that no State has the legislative competence to prescribe any particular medium of instruction in respect of higher education or research and scientific or technical instruction if it interferes with the power of Parliament under item 66, list I to co-ordinate and determine the standards in institutions of higher education or research. Though the State Legislature has power to legislate in relation to the medium of instruction in primary and secondary schools, it cannot do so in respect of institutions of higher education or research, if such legislation is likely to lower the standards in such institutions. In the case of the Gujarat University, Ahmedabad, versus Krishna Ranganath (1963 (1) Supp. 5 C.R. 112), the Supreme Court held that under the University Act as originally enacted or subsequently amended, the University had no power to impose Gujarati or Hindi as the exclusive medium of instruction. 'While the University can prescribe Punjabi as a medium of instruction, it cannot prescribe it as the exclusive medium nor compel affiliated colleges established and administered by linguistic or religious minorities or by a section of the citizens who wish to conserve their language, script and culture, to teach in Punjabi or take examinations in that language in the Gurumukhi script. The University Act having compulsorily affiliated these colleges must of necessity cater to their needs and allow them to administer their institutions in their own way imparting instruction in their medium and with examinations in their own script.' (See the judgement of the Supreme Court in *D.A.V. College versus the State of Punjab*.)

What is a linguistic minority for the purpose of Article 30 (1) of the Constitution? It is understood that in the State of Punjab, the Hindus are a minority, though they are not so in relation to the entire country. In the writ petitions before the Supreme Court filed by the fourteen colleges managed and administered by the Dayananda Vedic College Trust, the claim of the Arya Samaj to be a linguistic minority was disputed. 'A linguistic minority for the purpose of Article 30 (1),' observed the Supreme Court, 'is one which must at least have a separate spoken language. It is not necessary that language should also have a distinct script for those who speak

it to be a linguistic minority. There are in this country some languages which have no scripts of their own but none the less those sections of the people who speak that language will be a linguistic minority entitled to the protection of Article 30 (1).' In that case the Court held that the Arya Samajists were a linguistic minority or religious minority, at any rate as part of the Hindu religious minority in the State of Punjab. Accordingly, it was affirmed that the Arya Samajists through their educational institutions had the right to conserve their script (which was Devanagari), their culture and their language.

Another aspect of the question is whether the religious or linguistic minority should be a minority in relation to the entire country or the particular State? According to the decision of the Supreme Court in the *D.A.V. College* case, the question has to be determined only in relation to the particular legislation which is sought to be impugned, namely, that if it is the law of a State legislature, the plea of minority has to be determined in relation to the population of the State; if the legislation is for a locality or for the country, the question of religious or linguistic minority will have to be decided with reference to the population of the locality or the country *vis-a-vis* the community.

It is necessary to mention that the right of minorities to establish and administer educational institutions of their choice would include the right to have a choice of the medium of instruction also. Therefore, the State must harmonise its power to prescribe the medium of instruction with the rights of a religious or linguistic minority to have a medium of instruction and script of its own choice.

What I have stated above as regards the rights of linguistic minorities applies with equal force to minorities based on religion. To claim the protection of Article 30, it is not necessary that the curricula of a minority community institution must conform to the teaching of its religion only or be in its language. There is no limitation on the number of subjects to be taught and the institutions are not debarred from giving general education in addition to instruction in religion or language of its own choice.

The last question that remains to be discussed is as to the right to receive aid from the State. An institution under the management of a minority, whether based on religion or language, cannot be denied State aid. In granting aid, the State cannot impose such condition as would negate the protection given under Article 30 (1) to the minorities. The State cannot discriminate against such institutions in the matter of granting aid. The principle followed in determining the quantum of grant to educational institutions of general category has to be followed in the case of institutions run by minorities. There cannot be two yardsticks. It cannot say that minority institutions must run with their own resources. It cannot require the minority to surrender its rights before asking for aid. In short, the State cannot discriminate ordinary institutions against minority institutions in the fixation or grant of its aid.

Students and Management of Colleges

By SURAJ BHAN, Vice-Chancellor, Panjab

Growing awakening among students, explosion of population in the colleges and explosion of aspiration among young people living in the age of democracy and freedom have brought to the fore the vital issue of students *vis-a-vis* the management of colleges. The students are demanding participation and involvement in the management. No more dithering or evasion is possible. For meeting the emerging needs, demands and aspirations of the 'new student', the practices of the past and traditional approaches are no longer tenable. In a day full of new problems, new procedures are imperative.

Administration Hitherto

In the past, administration in colleges was simple and smooth. In the twenties or thirties managing a college was a tame affair. The teachers and students (not large in number) met in quiet class-rooms. Rarely did students defy the law of the college, except on an occasional call from the freedom fighters. The principals remained entrenched in their positions and many of them who held their posts for long periods of time became dedicated to the cause and their idealistically correct belief was that it is not the brick and mortar that makes an institution but the live personality behind it which with self-abnegation creates fine and abiding traditions based on higher values of life and in the larger interests of the entire student community. Inevitably, such men began to think and act as if they were the only ones who knew how to run an institution of higher education. The students and laymen accepted administrative autocracy and thus the word of the authoritarian adminis-

trator was law. Persons concerned obeyed his mandates, even though his directness pinched them.

Now the colleges have become large and complex. The students and people are better informed and doubts have arisen about the infallibility of the Principals acting alone and the question is asked if it is possible for one person to know all the answers of the altogether new problems of the new age. This situation, along with changed attitudes towards morality and freedom, has spelled the death-knell for authoritarian administration. When faced with a major campus situation, the traditionalist administrator follows a pattern of precedents. He quotes precedents followed in the past or in other institutions. Such a life-jacket cannot provide an administrator a haven in the present stormy sea of confusion and crisis. Reliance on precedents or traditions suffers from the defect that measures that may have succeeded fifty years ago may not be what is needed to solve today's problems. Administration is bogged down in routine and inertia by such reliance. Of course it is easier to let conditions remain as they are because it means a real effort to emerge from a rut. But in these dynamic times the old momentum cannot serve the new goals warranting new approaches. The greatest realism in the present circumstances is to reckon with a factor, rightly called student-power, which has been amply demonstrated during the past decade.

The present generation of young people is aptly called the space generation, which tends to see the rigours of order as the great barrier in the achievement of their aspirations. They have a growing consciousness of personal dignity. Fed by mass media of communication, urged by parents and teachers to enquire, the new generation is sensitive to the larger world and their role in it — as no generation before. The non-recognition of students as dignified persons has created distrust among them. To challenge the sense, the responsibility, the interest and the ability of the student is no longer tenable. It is no use trying to pander to them or refuse to listen to them or to ask them to stay in their dormitory rooms and keep quiet. Obtaining more responsibility and active participation in the context of freedom has been the central thrust of the student movement.

If we do not train posterity in the democratic sense of sharing responsibility, they will neither develop a sense of involvement in social affairs nor a sense of active participation. When they are de-personalized under the authoritarian type educational system, they will remain de-personalized throughout and will never be able to take on social responsibility, which has ultimately to devolve upon them as and when they have to be full-fledged and contributory members of society.

Lack of Communication

It cannot be denied that there is a lack of communication between the generation demanding participation and involvement and the generation holding strings of power, authority and decision-making functions. More often than not it has been found that

many student frustrations are due to little more than a lack of a channel of communication with the authorities. Frequent communication and a mechanism of dialogue between students and the administration is sure to set right a great many misconceptions and misunderstandings and the atmosphere of distrust is attenuated. It is, therefore, that students have to be brought closer to administration.

Mutual Means Approach in Administration

Administration of an educational institution at least takes three ways: imposed or autocratic administration; administration by inducements and incentives and administration by influencing the persons involved so that they voluntarily act as they should. Of these three methods, if the latter two are combined, a new type of administration will emerge which will be most acceptable in a democratic society. The prudent administrator has to accept the latest philosophy of the dynamic age, that he has to live 'a day at a time'. Whatever the position in other fields of activity, in education he has to tacitly admit 'that the customer is always right even when he is wrong', at least for sometime till the young generation accept freedom with responsibility. It is conducive to the smooth management of an educational institution to believe that young people today are much more intelligent than students used to be. They should be asked for their opinions on almost every phase of the college programme, ranging from what they want to eat to what they think they should study. Under this type of administration the individual believes that his free will is directing his actions. Power to influence the opinion of others is a great power.

An exclusive student-centred approach in the management of a college may neither be desirable nor practicable in the sense that in that case the administration may respond too quickly and too completely to student demands and thus sacrifice long-range stability for a quick answer to a current problem. The administrator, therefore, cannot draw all his objectives from students because, though they may be intelligent, they do not have the experience and the deep insight to cope with all situations. It would be expecting too much from them to suggest remedies for all problems when they lack the background to know whether some procedure is an experiment, an expedient, or a tested solution.

To obviate the practical difficulties of an exclusively student-centred approach to the crucial issue of students *vis-a-vis* college management, the best alternative is to take 'a mutual means approach'. This approach holds the answer to all administrative problems in a college, because it draws its resources from students and the faculty members. There are many things to be learned from college students. They have ideas and can detect flaws in teaching and administration. Their criticism should be heard and checked for validity. Of course we may not make the patient his own physician, but it will be good if we make him more communicative about his troubles. If students, faculty members and Principals can communicate and are allowed to contribute the wis-

dom of their own education and experience, this mutual-means approach to present-day college administration possesses real promise of success. Mutual co-operation and assistance is necessary in any viable educational organization, where the striving is to establish 'acceptable academic freedom'. An academic institution houses strongly opinionated individuals with varied view-points and, consequently, it cannot and would not wish to control or channel all thought into one stream. In an age in which teachers demand salaries linked with the price index besides other fringe benefits, in which students wish functional and meaningful education and in which education requires expensive libraries and laboratories, there is no way to run a college without highly skilled administration. Effective institutions of higher learning will have to be the natural result of being presided over by administrators with intellectual leadership, seriousness of purpose, sense of dedication and who keep the channel of communication free and open to the students and teachers. It is then that freedom can be assured to students and the faculty and academic services can be maintained in the college.

Experiments Abroad and at Home

In the educational institutions of some of the foreign countries where the experiment of participation of students in the management of the institution has been launched, the results have been positive. The once 'radical' system of community government at Antioch College in Ohio where educational policy is discussed regularly within the college at large, is becoming a common feature throughout the United States. At the University of Sussex in the U.K. students and lecturers, and sometimes members of the administrative staff, go into 'retreat' to work out academic objectives and programmes. Examples from other countries can be multiplied but space forbids to undertake this exercise. Even in our own country, such experiments are being tried in a number of colleges. Their experience can be reviewed and fresh thought applied to broad-base the experiment.

Today's knowledgeable students should be given more responsibility in managing certain areas of their education. The issues on which students have a right and responsibility to speak and those which do not lie within their realm must be clearly defined and recognised. Likewise, students should be urged to develop a capacity for judgment while maintaining their independent search for truth. It is most important, therefore, to provide an atmosphere of freedom of thought and expression, but at the same time, to instil also a strong sense of responsibility towards the results and direction of their action.

The consultative student-staff committees can provide an appropriate forum to the students to voice their grievances and to the teachers to formulate their progressive views in the context of student thinking and thus make recommendations to the decision-making bodies of the University. This is the best forum to do thinking on curriculum planning and improvement in the techniques of class-room instruction. The imaginative students can contribute greatly, for their

insight is close to the situation, and since being academic apprentices they cannot control fully such a vital area, the foresight and experience of the faculty members must be complementary, though not mandatory.

An area which demands mature thought and responsible action is that of students' residential conditions and social rules. This is the area which most justifiably should have student concurrence, though at the same time they should be made aware that they are members of a social unit and, as such, they must obey certain rules.

The students should be encouraged to run a student newspaper financed out of the college funds but manned by mature and able students under the guidance of an influential member of the faculty so as to enable the students to voice their opinions on all matters concerning the 'college interna', and not the 'college externa'. A student council must hold periodical discussions in a free and frank atmosphere on all issues related to students. In every college, there should be a counselling body of experts to help the students choose the right type of subjects and to offer advice on their personal and academic problems.

Governmentally, the college community cannot, by definition, be a society of equals. It is necessarily too sharply structured according to differences in training, demonstrated knowledge and attainment. The power of final decision can rest only with those who have the requisite qualifications of senior membership in the college community and who have committed themselves in their careers to the values the college represents. But by allowing the budding generation to come forward and learn to manage their own affairs, colleges will be more representative of the social values and social aspirations. There is imperative need to recognise the college set-up to ensure that students do not grow irresponsible, and also that they do not carry the germs of irresponsibility into society. The earlier the colleges democratize their set-up and train the students to participate with integrity in the affairs of the college community, the better it would be for educational and social progress.

A logical conclusion is that student assistance and co-operation is laudatory, student control is impractical. While the administrators should recognise the social rights of today's students and manifest a sincere trust and confidence in them, they should also cultivate in them the valuable attributes of good taste, respect and propriety. If education is to progress, brilliant minds of various levels must pool their resources in constructive work and not be thwarted by problems of protest. If a democratic society is to survive and flourish, principled persons of reason of all ages will have to rally. Let us, then, build our hopes on the restless, questioning generation, which has compelled us to re-examine and reform our techniques and approaches. The 1960's has been a decade of probing and protesting; let us commission the 1970's as a decade of searching and solving the problems.

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Colleges, College Teachers and Politics

By Dr SHIV MANGAL SINGH 'SUMAN'
Vice-Chancellor, Vikram

The ancient aphorism—'Sa vidya ya vimuktaye' ('Education is that which liberates') is as true today as it was before. Education here does not mean mere spiritual attainment, nor does liberation signify only spiritual liberation after death. Knowledge includes all training that is useful for the service of mankind and liberation means freedom from all manner of servitude even in the present life. The acquisition of such knowledge in the pursuit of this ideal alone constitutes true education, and the fountain of such knowledge is discernible only in the Teacher, who is devoted to the Goddess of Learning (Saraswati), is dedicated to his profession and is free from petty politics in his life and behaviour. Our highest ideal as expounded in one of our ancient scriptures, the *Taittiriyaopaniṣad*, has been so graciously put in the mouth of Nak Rishi the son of the great Mudgal when he says that acquiring and imparting knowledge is the summum bonum of human life. That indeed is the real consummation of penance and austerity.

While designing a write-up on the Teacher and Politics, one is reminded of ancient Gurus like Sandipani and Vedvyas, who would eschew all politics and would devote themselves exclusively to the cause of training their disciples towards better knowledge, higher values and noble causes to enrich the socio-political order and human behaviour. In his ideal of imparting knowledge and training his pupils, the modern teacher, whatever be his field and achievements, has not to be very much different from our ancient teachers, who, instead of being affected by narrow parochial political gains, influenced the socio-political philosophies of their times through their teachings and disciples to a monumental degree. Pointing to the obligations of a teacher,

the great poet and savant Tulsidas says :

Hare sishya dhan shok na harai,
So guru ghor narak maham
parai.

'A teacher who merely collects fees from his pupils but does not equip them to overcome their worries of life is doomed to fall in the worst hell.'

Much more important than economic planning today is the planning of the character of our young boys and girls. The teacher alone can mould the young minds and hearts in the right direction and if we neglect the teacher—his personality, talents achievements and involvements—we neglect the very basis of a socio-economic revolution. It is no exaggeration to say that the teacher is, in more senses than one, the real builder of a nation. To his care are consigned the future destinies of the younger generation. A teacher ill-equipped, half learned, frustrated and irresponsible, is the greatest menace to the healthy development of society, while a teacher contented, devoted and free from party politics could be a great asset to the growth of real education and sound democracy.

Teachers who are privileged to serve the nation as the noble trustees of the younger generation cannot afford to misuse their power and position for narrow personal ends and political gains. They have to keep the scales even without trying to poison or prejudice the supple and flexible minds and hearts of young and immature students. Injection of narrow party politics, cheap group rivalries and base trafficking in politics, in and out of the schools and colleges, is in my view the greatest sin that a teacher can commit against the nation and even humanity. Every teacher, of course, is free to hold his own political views in regard to various affairs—national

and international. But he must almost religiously eschew party politics. 'Example is better than precept' is nowhere more aptly applicable than to a teacher, who can design the future generation only by setting example through his academic attainments, environmental involvements and daily behaviour. Any attempt to exploit young minds for selfish ends or to import political rivalries to the educational campuses is the worst form of social violence and misbehaviour. If teachers begin to behave as ordinary trade-unionists and clamour for their rights without trying to discharge their duties, we can never hope to achieve lasting progress and proper national development. Even in the present chaotic conditions, I have found that an efficient and sincere teacher still commands the reverence of his pupils.

Politics, the way it pervades educational institutions, ceases to be a science, it is no more an art, it is left to be a craft pure and simple, which our teacher cannot afford to practise if he has to serve as a living instrument of inspiration for his students. He should not dabble in politics at the cost of academics. His place of action is and should be the classroom, libraries, laboratories, research cells, seminars and not public platforms, political arenas and election campaigns. Can one imagine a teacher performing his academic role even reasonably well if he moves about in the town for political trafficking? Thus wrote Shri Aurobindo :

'The teacher should not seek to impose himself or his opinions on the passive acceptance of the receptive mind. Example is more important than instruction, and influence is more powerful than example. Influence is not the outward authority of the teacher, but the power of his contact, of his presence, of the nearness of his soul to the soul of another, infusing in it, even though in silence, that which he himself is and possesses.'

According to the celebrated poet-devotee Chandidas, 'An ideal Guru should be like the sky,

imparting light, air and water to the plants, and leaving them free to grow and flourish as much as they may.' ('Akashadharmi guruchai.') But if he (the teacher) is debased, his character is devalued, his accomplishments are meagre, his movements are suspicious, his involvements are selfish and politically motivated, how will he influence and inspire his students who come in contact with him? Like Caesar's wife, a teacher should be above suspicion. If he dabbles in politics, involves in trade unionism and courts partisan attitudes, his academics would suffer and his quality as a teacher would be discounted and lost. I fully realize that in the present perspective Universities can no more remain as ivory towers. The day-to-day events in the country and the world around are bound to influence our thinking and to some extent our actions also. But it is here that a true teacher is needed to inculcate amongst his pupils an objective outlook and unbiased approach to problems. Political awareness is the need of the hour but it should in no way lead to political quibbling.

In fact there cannot be real politics without true education. A teacher should develop an understanding of politics, local and regional, national and international, but he should in no way be a party to it. A teacher has to be a political thinker but not a political agent. His task is to preach academics shunning all politics around him and leave the student to exercise his own judgment. The great practical politician Mahatma Gandhi has rightly remarked: 'I do not want my home to be walled in on all sides and my windows to be stuffed. I want all cultures to be blown about my house as freely as possible. But I refuse to be blown off my feet by any!' Here lies the difference between the democratic approach and the totalitarian outlook.

What exactly are college teachers expected to do? Obviously to develop man-power—to train men, efficient men with character, composure, efficiency and scholarship. Universities should

serve to be centres of deep study, optimistic thinking, a synthetic outlook and a training ground for the right type of people to meet a variety of challenges in society. But one feels sore to find that colleges and Universities work as a hot-bed of day-to-day politics. There are so many controversies relating to economic, social, cultural, educational, communal and language matters. By all means the University teachers have a legitimate right to assess and comment upon political issues but only academically and after careful thought. A University is not just to serve as a collection of class-rooms where a teacher gives instruction on how to pass examinations. As a centre of learning and research, any University should be bubbling with new thinking and the University teachers should study the political problems objectively, without any fear or favour, and should place conclusions impartially before the Government and the people without being parties to these problems. Here the teachers have to play the role of academic counsellors on political problems, rather than as politicians. The role of University teachers is vital in these matters and they must speak out fearlessly in clear terms. But their voice will be heard with respect only if they make themselves capable of putting forth an objective and analytical approach to political problems which may prove as guidelines for the welfare of the society and the world community.

Not infrequently, teachers get involved in party politics, in and out of the campus, and spoil not only their career, but also mar the name of the University where they work. So long as they are teachers they must be above party affiliations. If a teacher wants to enter politics, nobody can prevent him. He is free to resign and join any Party of his choice. But so long as he remains a constituent of a University, he must remember that the University is a sanctum-sanctorum given to deep, sincere, scientific and objective studies and has no place for sectarian outlooks. Our colleges and Uni-

versities must, therefore, steer clear of party politics which threatens to enter openly or covertly all spheres of national life. Many decades ago the poet Wordsworth had complained that 'the world is too much with us', our genuine complaint today is that 'Politics is too much with us'. Under various covers and garbs, unhealthy politics enters the domains of art, literature, education and even sports. Good educational institutions and sound educational plans have crumbled down many a time under the weight of narrow politics which tends to corrode the very foundations of good education. The teachers, therefore, must not try to use their students for petty ends or group rivalries so as to vitiate the educational climate of the country. The teachers should function more or less as members of the judiciary, studying various problems with complete objectivity, making available to the nation their considered views on different subjects. If the teachers themselves project views which are coloured and subjective, the basic function of the University would be diluted and nullified.

We may frankly admit that the explosion in numbers has greatly handicapped the genuine teacher in his trying to maintain personal relations with his students. It has paralysed the very structure and purpose of education. The teacher and taught ratio hardly leaves any place for opening dialogues between them. With the result that students in general do not take seriously to their studies and the teachers feel no responsibility about their sacred task. Those who have some prick of conscience somehow manage to finish the prescribed courses. The noblest profession in the world has deteriorated to disgraceful limits. Most of the teachers depend upon the notes that they had prepared during their student days and make better use of their time in manipulating ways and means for bettering their grades or devising various sources to augment their income. The colleges have become hot beds of regional jealousies and political pressures. Mostly new colleges are opened less because

of academic needs of the area and more as vote-catching devices. The apathy of most of the private colleges is still lamentable. Their managing bodies smack of casteism, favouritism, nepotism and other low-lying trades. Shortage of teachers, ill-equipped laboratories and libraries and lack of other physical facilities give place to student unrest, indiscipline and other chaotic conditions. This is equally true of Government colleges, which are generally opened under political pressures without caring for the financial commitments for providing minimum facilities to these institutions. Providing sports fields or other engaging hobbies has absolutely no meaning to these timeservers. With the result that in the absence of proper guidance and involvement the majority of students fall a prey to a few mischief-mongers. The students feel frustrated because of the ghost of unemployment looming large and the teachers get frustrated because of aimlessness and the bankruptcy of devotion to a cause. Thus the dislocation all round creates a very fertile ground for all sorts of dissensions and political feuds. Teachers shorn of all sense of responsibility and moral pricks fall an easy prey to various temptations, which vitiate the atmosphere of the colleges and Universities and make them a cesspool of political wranglings.

The teachers being otherwise busy are not able to engage the students in the form of internal assessment. When the student at the end of the session faces the examination after one year's auditory knowledge, with almost no practice in writing, he develops a dread for examinations, which gives place to mass copying and at times sporadic criminal assaults. Most of these nefarious unsocial tendencies can be curbed if teachers pay due attention and take some pains in moulding the destinies of younger generations nearer to their hearts rather than being a party or onlooker in their petty political feuds.

Under the circumstances the only way out is that the University teachers should strive to

serve as the consciencekeepers of the nation—ready and capable of assimilating new knowledge from all directions and projecting new horizons for a better educational order. Teachers are, to my mind, the salt of the earth, and must not lose their savour for petty politics, trivial gains, trifling issues and temporary positions. A teacher in a temple of learning should remain a devotee of knowledge and aspire to nobler achievements. He should opt to be a political scientist rather than a politician. A teacher should possess, to quote the words of Lord Gautam Buddha, 'the unique quality of being able to light other lamps with its flame without losing any of its own radiance'. Unless knowledge is free our aspirations for achieving peace and prosperity for humanity shall ever remain a dream.

PERSONAL

Mr R. P. Nath has been appointed the Vice-Chancellor of the Marathwada University with effect from October 16, 1971. He has assumed charge of his office.

Dr Ramanath Mohanty has assumed charge of the office as Vice-Chancellor, Utkal University, on November 1, 1971.

Mr Balram Upadhyaya, retired Judge, Allahabad High Court, has been appointed Vice-Chancellor of the Varanaseya Sanskrit Vishwavidyalaya with effect from November 1, 1971.

Dr Arabinda Nath Bose has been appointed Vice-Chancellor of the Jadavpur University for a term of four years. Dr Bose assumed office on November 29, 1971.

Mr S. P. Singh Bhandari, Commissioner for State Enterprise of Rajasthan, has been appointed Vice-Chancellor of Udaipur University for the residual term of the outgoing Vice-

Chancellor with effect from January 3, 1972 to July 4, 1972.

Dr D. P. Singh has been re-appointed Vice-Chancellor of the U.P. Agricultural University for another term of 3 years with effect from January 28, 1972.

Mr L. Bullayya, Vice-Chancellor, Andhra University, has been reappointed for another 3 years with effect from 30-11-1971.

Dr A. G. Pawar, Vice-Chancellor, Shivaji University, has been appointed for another 3 years with effect from September 20, 1971.

Mr M. Narotham Reddy has been appointed Vice-Chancellor of Osmania University to succeed Professor Ravada Satyanarayana.

IT PAYS TO ADVERTISE IN UNIVERSITY NEWS

Affiliation and Disaffiliation

By A. G. PAWAR, Vice-Chancellor, Shivaji

The mechanism of affiliation is of vital importance. Before the affiliation of a new college is granted, it has to be ensured that there is a real need for the college in the area where it is to be located; that there is a regularly constituted governing body for the college; that it has sufficient financial resources for the continued maintenance and efficient working of the college; that it has the teaching and non-teaching staff with requisite qualifications and ability; that it has suitable accommodation; and that it has the necessary library facilities and so also laboratory facilities in case science subjects are to be taught in the college. It is also necessary to find out whether provision for hostels for students as well as for the residence of the Principal and the Rector are made.

The Committee that is appointed to make the on-the-spot study of the proposed college has heavy responsibilities to face. It must go into the question ruthlessly with a view to finding out whether there is a real need for the college, whether the management is reliable and competent, and whether the financial resources are adequate. Law has laid down the basic conditions of affiliation, the proper fulfilment

of which should create no difficulties in the organization of the new college. Much, therefore, depends on the study made by the Inspection Committee.

Lately there has been a tendency for starting colleges rather indiscriminately as colleges have come to acquire some prestigious value. The problem has, therefore, become even more difficult and it requires real strength of mind on the part of the members of the Inspection Committee to give their findings plainly and frankly.

The responsibility of the authorities of the University that are concerned with the affiliation proceedings such as the Academic Council, the Court or the Senate, and particularly of the Executive Council is equally onerous in these matters. These authorities have to be equally rigorous in their approach to the problem.

In most of the Universities the State Government is the final authority for granting affiliation. In these days of popular pressures generated by democratic processes it may not be easy to turn down a proposal of this type. There is, therefore, a greater need for the authorities of the University to state their case firmly to enable the

government to come to a correct decision.

Disaffiliation of a college may become necessary if it miserably fails or avoids to fulfil the conditions of affiliation or is conducting its affairs in a manner which is prejudicial to the interest of education. But the question of disaffiliation is a difficult one. It is the last thing to be thought of. According to the procedure laid down by the University Act, it is not easy to get a motion of disaffiliation passed in the Court or the Senate unless the institution has been universally condemned. The legal provision in some of the Universities regarding disaffiliation requires that the motion for disaffiliation shall have to be passed by a resolution of the Senate or the Court supported by two-thirds of the members present at a meeting, such majority being not less than one-half of the members of the House. It will thus be seen that the procedure laid down for the disaffiliation of a college is pretty stiff and it cannot be easily resorted to. The best thing is to see that things do not go so far. Periodical discussion with the Principals and managements of colleges may be conducive not only to better relations with them but may help them to improve conditions in good time. Nevertheless if disaffiliation is the only remedy, it shall have to be enforced. The interests of education are higher and greater than those of the management.

UNIVERSITY LIBRARIES A SURVEY

The biggest of the Libraries of the State of Bihar now, the Patna University Library had very modest beginnings. It came into being in 1919. The Lieutenant Governor of Bihar sanctioned a special grant, a sum of Rs 8,000. Out of that grant a small collection of textbooks was set up with an assistant to take care of it under the supervision of the Assistant Registrar.

In course of time the Library was divided into three sections, namely, the University General Library, the Bailey Memorial

Collection and the Banaili Economics Library. The General Library was for the use of Fellows, officers of the University, registered college teachers, registered graduates, registered school teachers, research students working in the affiliated colleges, students of the affiliated colleges at Patna and such other persons as might be allowed by the Vice-Chancellor on such conditions as he might impose.

The Bailey Memorial Collection was founded to perpetuate the memory of Sir Charles Bailey,

Patna University Library

By B. P. MISHRA, Librarian

the first Lieutenant Governor of the province of Bihar and Orissa who retired in 1915. In February 1925 a grant of Rs 50,000 was sanctioned by the Government for the foundation of a section in the Patna University Library to be known as the Bailey Memorial Collection. This collection is open to the general public, both for the purposes of reading and borrowing books. The borrowers can take books out on making a deposit of Rs 10 which is refundable, subject to certain rules. The total number of books in this collection is 15,000.

The Banaili Economics Section also grew in the same way. In 1920 the Raja of Banaili donated a sum of Rs 5,000 to purchase books on Economics in order to aid the Banaili reader in Indian Economics.

Later there came to be added three more sections, namely the Rai Bahadur Shiva Shankar Sahay Hindi Collection, the Manuscripts Section and the Gandhi Memorial Section.

The library maintains seminar collections which are attached to each of the post-graduate departments of the University. These collections consist mainly of textbooks related to each of the Departments.

The total number of books inclusive of seminar collections comes to approximately 2,00,000. Besides, there are 4,575 volumes of old and rare manuscripts in Sanskrit, Hindi, Maithili, Urdu, Persian and Arabic.

The library subscribed to some 500 journals both foreign and Indian, of which volumes five years old are bound and maintained.

With the exception of textbooks and reference books which the Librarian purchases directly, other purchases are made on the recommendation of Heads of the University Departments generally.

The system of book classification adopted is the Dewey Decimal Classification and cataloguing of the books is based on the A.A. Code.

Access to the library stacks is partially open, i.e., subject to some limitations.

In the first instance the library was accommodated in a two-storeyed building. The upper floor formed the Reading Room and the ground floor was meant for stacking books. In 1936 the Senate sanctioned a sum of Rs. 32,000 for adding two wings to the main building, and almirahts at a total cost of Rs 28,000 were acquired to furnish the new wings and the ground floor.

The library has been relieved of a great suffocating tension since the magnificent four-storied building constructed at a cost of Rs 15,00,000 was delivered to the

library administration. This new building was inaugurated by Shri G.L. Nanda, the then Minister of Home Affairs on November 21, 1965. It took some seven years for its completion since the foundation stone was laid by Shri C.D. Deshmukh, the then Chairman of the University Grants Commission, in December 1958. It provides 44,000 sq. ft. of floor area including an air-conditioned block of 3,000 s.q. ft. on the second floor which accommodates the Manuscripts and Fine Arts Sections.

The accommodation plan for various administrative units as well as for stacking the books on various subjects in the library is as follows (by floors) :

Ground : (a) Lounge cum Display Chamber,

(b) Circulation Section, including the textbook reading room, the home reading issue section and the periodicals section,

(c) Library stack containing books on philosophy, religion, social science, history, English language and literature,

(d) Administrative wing including the Librarian's Chamber and the Technical Section.

1: (a) Stack containing books on Science and bound volumes of Periodical Literature,

(b) Reference Section & UNESCO Information Centre,

(c) Research and Teacher's Reading Section,

(d) Acquisition Section,

2: Manuscripts & Arts Sections,

3: Spare accommodation for anticipated growth.

The building is furnished adequately with new and modern furniture at a cost of Rs 3,00,000.

The strength of the staff has grown conspicuously although there is yet vital need for its further expansion. The post of the Chief Librarian has been graded in the University Professor's rank. Besides, there are altogether 9 members on the staff holding professional degrees with high academic qualifications. The total strength of the staff in various grades comes to 60.

The administrative units of the library are as follows: Acquisition Section; Technical Section;

Circulation Section; Home Reading Issue Section; Textbook Reading Section; Periodicals Section; Reference Section; Manuscript Section.

The General Library had two sources of income: One from the General Fund of the University, and the other from the profits of its Textbook Publication Fund. The library has at present a total annual recurring grant of Rs 1,04,895. A sum of Rs 20,54,000 has been received during the Plan periods which has accelerated the growth of library resources tremendously.

The Library's Advisory Committee consists of the Vice-Chancellor (Ex-Officio) in the Chair, the Registrar (Ex-Officio) who is the Officer-in-Charge of the Library and eight members from amongst the Principals of the constituent colleges and Heads of the University Departments nominated by the Vice-Chancellor. The Librarian is the ex-officio Secretary. The Committee, besides suggesting ways and means to improve upon the efficiency of library services, determines the allocation of funds for the purchase of books in various disciplines. This is a policy-making body.

The Library also provides facilities of procuring books from the National, the University and other libraries of the country and abroad for research work by scholars through an Inter-Library-Loan Scheme to its scholars.

The following is the time schedule of the various wings of the library: Administrative Section, Reference Section, Manuscript Section, Home Reading Issue Section — from 10.30 A.M. to 4.30 P.M.; Textbook Reading Room & Research Section — from 7.30 A.M. to 9 P.M.; Periodicals Section — from 10.30 A.M. to 7 P.M.

Membership to the Library, excepting for the Bailey Memorial Collection referred to above, is open to the following: Members of the University Senate; Officers of the University; Teachers of the University Departments; and the Constituent Colleges and the Researchers registered in the University; Registered Graduates of the University.

BOOK REVIEWS

Educational Administration★

By Prof. N. V. THIRTHA, Head, Deptt. of Education, Bangalore

This Book, as the author says, is very much a personal book in the sense it consists of a number of papers all of which reflect a particular view on the administrative process — which have been read by the author to groups in different centres of learning in the world. The papers were prepared for practitioners rather than for professors. Though they are not arranged in the chronological order, they reflect a sequence in the author's own particular approach to administration as an on-going process.

Attempts to arrive at a theory of Educational Administration are of recent origin. An attempt to apply the scientific method to all aspects of organization is a twentieth century phenomenon. Fayal in France, Urwick in England, Mary Parker Follett, Gulick, Tead and Mayo in America have contributed a vast store of ideas and information on the administrative process. Simon's *Administrative Behaviour* with its emphasis on decision-making as the core of administrative process has exerted a considerable influence in recent years. Griff this emphasises that theory must deal with the substance of administration and not its form. Hemphill views theory in administration as problem solving; whereas Juba and Gatzels consider administration as a social process. Halpin says that administration involves four components, viz., the task; the formal organisation; (3) work group; and (4) the leader, and he discusses the different variables in each. Juba's working method requires four elements in Administration, namely, behaviour determinants, alienating forces, integrating forces, actuating forces.

The author of the book under review has benefited from the studies conducted by the authors quo-

ted above and has tried to point the guidelines for building up a theory of administration.

There are twelve papers presented in this book on different topics such as 'The Challenge of Educational Administration', 'Training the Educational Administrator', 'Teaching and research in Educational Administration', 'Theory and Practice in Educational Administration', 'Obstacles to Freedom in Our Schools', 'Australian Education: The next Ten years' etc.

It is important to distinguish the meaning of terms like 'organization' and 'administration'. Quite often the two terms are used by educators as if they are synonymous. The author's quotation from Tead to distinguish the two terms is very helpful in this regard. 'An organization is a combination of the necessary human beings, equipments, facilities and appurtenances, materials and tools, assembled in some systematic and effective co-ordination in order to accomplish some desired and definite objective'; whereas administration is 'the process and agency which is responsible for the determination of the aims for which an organization and its management are to strive'.

In terms of the distinction between organization and administration, the task of the latter is conceived as meeting the challenges of purpose, professionalism, isolation, size and science. To function with the purpose of bringing about effective teaching, learning and conducive human relations within the school complex, to evolve and transmit a body of knowledge and skills for pre-service preparation and establish a legal sanction and ethical code for professional administrators, to remove isolation among trained professional administrators through appropriate organizational and communication links, to evolve

an optimum size of administrative units at both training and school levels and finally to operate within the precincts of scientific methodology and theory of administration, are to be considered the main challenges of Educational Administration.

Perhaps the criticism of the author about the theory of educational administration as practised in Australia is very significant to Indian educators. The educators in both the countries appear to be sailing in the same 'uncharted ocean'. The contemporary theory of educational administration is characterized by the author as either a 'commonsense theory', or a 'bad theory'.

The dichotomy that exists in the mind of administrators about theory and practice is artificial. The two are inseparable. In the sense that any theory is a unified hypothesis that can explain and predict events and thus become a basis for new knowledge, a theory of administration is a product of rigorous scientific enquiry. It is not a 'personal affair, an idle dream, a philosophy or even a taxonomy'.

Theory construction — an unpopular exercise in educational administration in India — may be undertaken in the following manner.

1. To begin with, an objective factual observation of an administrative behaviour in a social situation has to be described.

2. The basic concepts used in such a behaviour need to be defined and refined.

3. A more general statement which is descriptive of average behaviour in a limited number of situations may be then attempted.

4. Later one or more testable hypotheses are to be projected from the general statement.

5. Further observation of data should then help the evaluation and reconstruction of the hypothesis.

6. Finally a statement of the principle or set of principles should be made as a 'Theory'. These well-known steps of scientific enquiry can provide a more dependable basis for generaliza-

**Theory and Practice in Educational Administration* by W.G. Walker; published by the University of Queensland Press; 214 pp. Rs. 39.50.

tion of administrative behaviour than the usual subjective sermons that even seasoned administrators can make. The author rightly points out 'a scientifically determined theory can be wrong and still lead to progress. Explicit—even wrongly explicit—theory is better than implicit theory or no theory at all. Those who advocate practicality as opposed to theories are just following implicit bad theories'.

Probably a very valuable contribution of the author to Indian readers is his advocacy of the need of training for educational administrators. It is a long-standing practice in India that educational administrators are drawn from the cadre of senior teachers in schools. Successful and experienced teachers of classrooms are promoted to the cadre of administrators with no additional training in the art of administration as if the processes of teaching and administration are one and the same. It is interesting to contrast this with industry, commerce and public services where administrators are trained under a rigorous course of management and administration studies. If educational administrators should become forward-looking, innovating, and sensitive to the changing context of their clientele, there appears to be no doubt that the educational executive needs training in much the same way as the industrial executive needs it.

Referring to the role of the University in the Administrative Revolution, the author quotes many authorities to support his thesis and it is the University only that can play an important role in providing sound theoretical principles for improving administration.

Chapter 5 is devoted to a detailed description of diploma courses in the Educational Administration of the University of New England which offers three major courses, namely, Foundations, Professional Training, and Research Projects.

In Chapter 6 titled 'Teaching and Research in Educational Administration', the author very aptly points out that the great enigma of school government today

is that institutions which cry out for skilled administrators of wide vision are being run by men whose professional training and interests are not primarily in the field of administration at all. At the State level, the picture is not very different. The Departmental heads like the Head Masters are products of the educational system which train them for teaching rather than for administration. Some of these officers are sent to courses such as those offered by the Administrative Staff College or the State Public Service Boards. A few of them travel abroad. But the effect of these obviously broadening experiences is a diffused training given so late in the life of administrators that it fails to give them any deeper understanding of issues involved in educational administration. The author concludes that there is an apparent emphasis on formality rather than on adaptability and a hesitancy to experiment in our educational systems.

Speaking about research in Educational Administration, he says, 'Research has merely scratched the surface. The nature of

decision-making is almost as great a mystery as ever it was. We have merely dabbled in the study of communication. An adequate theory of administration has not been delineated; the economics of education is largely a closed book.'

The book though given in different fragments presents a wide range of material in the new area of theory on Educational Administration supported by studies by eminent research workers, administrators and experts in the field for bringing home to the reader some basic truths such as: (a) the need for a theory in Educational Administration; (b) the problem of utility of theory in practical administration; (c) the vast areas and fields of research open in Educational Administration; (d) the new concept of theory as dealing with is's and not ought's etc.

Besides this, the author has succeeded in presenting a clear-cut picture of what is happening in Australian education. Many of the things that are happening in Australia are also true of India.

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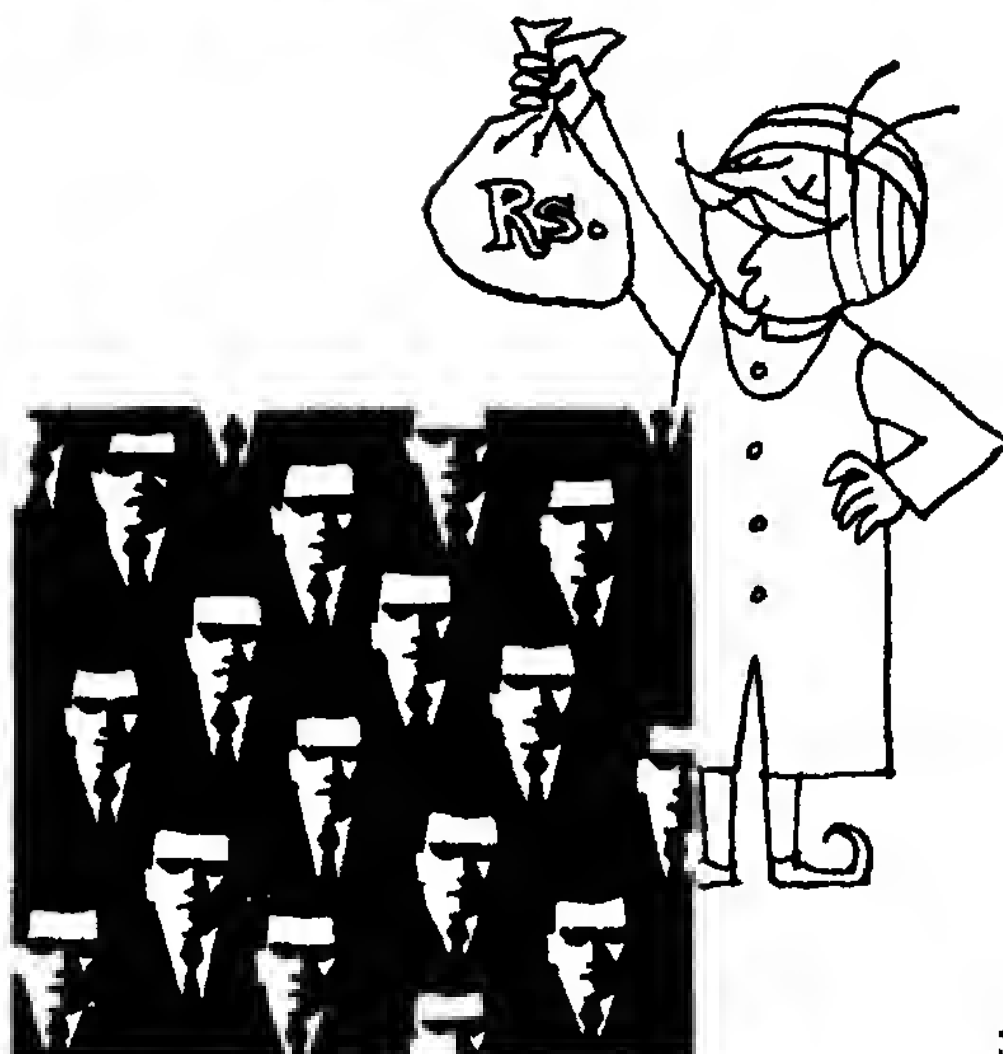
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UNIVERSITY



NEWS

47th ANNUAL MEETING
Inter University Board

AGRA  UNIVERSITY

February 1 & 2, 1972



You can take the professor out of the university, but you can't take the university out of him. Even though, Dr. Nurul S. Hasan (Right), joined the Government as Minister of Education, sometimes the educationist deep inside him, thrown among his fraternity—as, for instance, at the Agra University, where he recently inaugurated the Annual Conference of Vice-Chancellors of India and Ceylon—takes over:

"During the past 25 years, education has reached those classes, which had hitherto been denied its benefits."

"...Enrolment in institutions of higher learning has risen from one million to three..."

"Even though the base of education has broadened considerably, it must regretfully be admitted that the equality of educational opportunity has not yet been attained."



UNIVERSITY NEWS

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Opinions expressed in the articles and reviews are individual and do not necessarily reflect the policies of the IUB.

Editor : W. D. Miranshah

OF ARISTOTLE'S WIVES AND INDIA'S POVERTY!

Bertrand Russell takes a good-natured dig at the academic extremism of Aristotle, who used to maintain that women have fewer teeth than men: "Although he was twice married, it never occurred to him to verify the statement by examining his wives' mouths"!

And yet, there is nothing absurd about it. Most of the world's learning has come from this excessive academising, and nearly all research. Objectivity, which is just another name of critically viewing a situation without reacting—somewhat like a Japanese box-camera—is the very essence of the science of validity. A slight disturbance, due in large measure, to a casual victory of the human heart over the human mind, can promptly turn it into a piece of gushing poetry. So, one might say that disturbed objectivity is the mother of all fiction and most poetry. Indeed, there is subjectivity well hidden within objectivity; it needs merely to be discovered. An endorsement, if one were required, of this rather irregular logic, may be conveniently had from Henri Bergson: "The present contains nothing more than the past, and what is found in the effect was already in the cause."

It was all very well during the era of mystifying myths preceding the Industrial Revolution, which promptly exploded them, as if they were helpless soap bubbles. Among other victims of this great revolution, the one most outstanding is the lazy leisure of the thinker. And it decimated everyone's working time: a pressure so unprecedented and unique, that it has shaken whole systems, apart from questioning faith, rejecting traditional lore, doubting parental infallibility and the teacher's competence. No more is it now possible to sit down and write volumes like Papa Shakespeare used to do; and no more the "noon-day dreams" of Shelley!

Indeed, the human tragedy is an offspring of two opposite forces: the powerful inertia of tradition, which is dead, pulling him in one direction; the new world of science, which is very alive, pushing him to the other. It is a kind of life, which Thoreau felt was "a constant predicament preceding death" — a predicament, which the thoughtful Vice Chancellor of the Chinese University, at Hong Kong, attributes to a new post-Industrial Revolution phenomenon: "For the first time in the history of civilisation, the time span of cultural change has been telescoped into less than the normal life-time of an individual."

So, anyone subject to the new forces of science of the present era — and it actually means everyone, except the Indian cow—will have to recognise, no less honestly than Galbraith, that "Economics always sees, with remarkable clarity, what existed 25 years ago. But it is not so good at seeing what's before one's eyes"! Quite obviously, it sounds like a most pressing invitation to the scientist and his research to take in hand India's central problem of teeming millions, so ably compressed by Gandhij, at the Round Table Conference in London, into just a single, silent word: "poverty."

Vice Chancellors' Annual Conference Opens At Agra

Reported by W. D. Miranshah

As I got down at the Rajamandi railway station at Agra, I was besieged by some two hundred men, each vying with his colleague to catch my eye. You couldn't very well blame me, if this flattery went to my head, making me seriously wonder, if I weren't after all a local minister! But, alas, my fond theory came soon crashing down, as they disclosed their identity—they were all rickshaw pullers!



Dr. A.G. Power (above) summed up his idea of education in this classic Miltonian quote:

"I call, therefore, a complete and generous education that which fits a man to perform justly, skilfully and magnanimously all the offices, both private and public, of peace and war."

They met in the afternoon of the First and the whole day of the Second of February — fifty four Vice Chancellors, including two from Ceylon, and representatives of the UGC, the UPSC, and Education Ministry.

The choice was pay or perish. My roving eye fell on an old man, and I at once told him to take me down to the Agra University. I am sure that even these rickshaw pullers were now convinced of the inexorability of that well known governmental dictum: "Convassing in any form will disqualify."

The man was as old as his rickshaw; the one continually coughed and the other continually pedaled in rhythmic alternation. I was duly deposited at the gate of what appeared to be a towering Tudor mansion. As I looked up at the banner overhead, I knew that this was the place, although not yet the time "heretofore fixed" for the forty-seventh annual meeting of the vice-chancellors of India and Ceylon.

* * *

As the clock struck the hour of ten on that cold, first Tuesday of February, there was sudden suction of the crowd towards the main gate. I also joined the pell-mell to see what was up. My guess was right — Dr. Nurul S. Hasan, the Minister of Education, had arrived to inaugurate the conference.

The welcome speech by the host Vice-Chancellor, Dr. Shital Prasad, was heart-warming. He said that Agra was not only that famous Brij Bhumi, which had provided the locale for many a celebrated exploit of Lord Krishna; it had also given birth to the father of Urdu poetry, Mirza Ghalib.

Coming to more mundane issues, he warned that students of yesterday had tolerated "all this neglect" but those of today "are certainly more assertive." His concern was eloquently reflected through his poser: "Imagine the complexion of the students' fury twenty years hence, if we continue to neglect their education, and yet continue to sit in annual meetings to take drawig room decisions."

The dropping pin could be heard in the silence which attended



Mrs. Bhanrali of the SNDT woman's University caught in a pensive mood.



Strictly off the record!

the Minister's inaugural address. He agreed that the past 25 years had seen an unprecedented expansion of education, and that enrolment at institutions of higher learning had risen from two to three millions during the preceding decade. "Without this phenomenal increase of educated manpower," he thought, "it would not be possible to maintain democratic institutions of the country, or to develop its productive resources." He argued that research at various universities — and the consequent know-how—had considerably contributed to the present buoyancy of the country's economy.

He considered the Inter-University Board a valuable forum for a discussion of problems common to all universities. He felt that the Board had an unique academic and moral leadership, which it should fully use to bring about changes and to make education more responsive to the current needs of society.

This was followed by the presidential address. After a rapid survey of the current situation consequent upon the liberation of Bangla Desh, the Conference President, Dr. Pawar, turned to the present mood of the country. In this connection, he quoted the Prime Minister's suggestion that "there should be a moratorium on student agitation and student disturbances for three years." His other notable suggestion was the creation of regional committees of IUB, so that the impact of its work was felt right at the grass-roots. Said he: "If the relations between the Board and the universities are more intimate and continuous, the results would be more useful . . . regional committees could also be formed and employed to make on the spot studies of the subject." He also suggested that both lecturers and principals be trained.

Between this and the business session upstairs an hour later, there was a happy interlude—a coffee break when the Minister mingled with all those present.

The business session met in the afternoon of the first and the whole day of the second of February. 54 Vice-Chancellors, in-



Dr. K.L. Shrimali of BHU caught somewhere on the borderline of two ideas, both striking!



Mr. Mahendra Pratap from Patna: A fleeting moment of creative nonchalance!

cluding two from Ceylon and representatives of the UGC, the UPSC, and the Ministry of Education, participated. The President ran the session with competence, tact and urgent despatch, all in due proportion.

Seven new universities — Bhopal, Guru Nanak, Himachal Pradesh, Jawaharlal Nehru, Calicut, Pujab Rao Agricultural, and Indian School of Mines—were admitted to membership.

* * *

There could not be a better choice of the venue than Agra for the seminar on colleges which followed the next day—it has a large number of affiliated colleges.

Some 18 papers, mainly by Vice-Chancellors but a few by connected officials, too, were presented. Almost half that number reviewed college-university relationship, financial matters and various other aspects of college administration.

Most speeches, like most papers read, referred to difficulties encountered by universities in handling their colleges. No definite remedial steps could be proposed, except that more junior colleges be started, and that stricter affiliation conditions might be enforced.

Several members — notably Dr. T.B. Mukherjee of Bihar and Mr. K.L. Joshi of Indore—spoke of acute distress, experienced by colleges; both were one in the view that the best solution was to hand over higher education to the Central Government. This was disputed by Dr. K. L. Shrimali of Banaras Hindu University. He felt that the Centre did not have enough resources for the purpose and, in any case, the State Governments would not hear of it. He asserted however, that the problem of private colleges would not be solved that simply. Dr. B.P. Apte of Poona University, proposed a modification: "Post-graduate education, both at university and the college level, should be vested in the centre." Professor Umashankar Joshi felt that educational leadership should be provided by the UGC and the IUB. Dr. Roma Chaudhury said: "Government colleges are better managed than priv-



Dr. Mohan Sinha Mehta and Mrs. Sharda Diwan—an informal chat.



The President, Dr. Pawar of the Shivaji University, welcomes the V.C. of Guru Nanak University, Dr. Bishan Singh Samundri, to the IUB fraternity.

ate colleges."

Mr. Mahendra Pratap (Patna University) said that the criterion of discussion was two-fold: 'One, what is practicable; two, what is desirable?' He felt, however, that some "selected universities" might be taken over. Professor V.V. John (of Jodhpur University) felt: The Centre was already suitably empowered. To seek to vest it with more powers was not called for, or politically expedient.

The Vice Chancellors then proceeded to a discussion of the constitutional right of minorities to establish and run their own institutions of learning. The point was discussed at some length.

Dr. Amrik Singh suggested that colleges should be vested with the right of examining their students and of awarding their own degrees; but that this right should be subject to the overriding consideration of accreditation by State Accreditation Boards on which all universities of a State are represented.

A considerable excitement was triggered off by the question of internal degrees versus the external. Dr. Apte of Poona University, supported by some other vice-chancellors, were of the opinion that a number of students could not attend regular institutions, both because of vocational compulsions and traditional penury. The lone dissenter was Dr. Chopra from Kurukshetha. He said that his university could never be reconciled to the popular concept of equality between regular degrees and degrees by post.

Professor R.N. Dogra, Director, IIT, New Delhi, was elected President of the Inter-University Board for the year 1972-73. And the House accepted the thoughtful offer of the outgoing President, Dr. A.G. Pawar, of playing host to the next annual meeting of the Board, at the Shivaji University, Kohlapur.

It was the first time that I had covered the Annual Conference. I must confess that I was much more hopeful about things at the end than at the beginning.



Dr. K.W. Goonewardena from Ceylon —Thoughtful silence.



Mr Kripal Singh Narang and a member of the IUB staff in a hurried snatch of conversation.

What Can The Scientist Do For His Country ?



INDIRA GANDHI
Prime Minister of India

Science and technology have rescued the most important sector of the national life—agriculture—from stagnation, and have infused some dynamism in it. An equally enduring contribution has been made in transportation and communication, and certain sectors in manufacturing industries.

But, in spite of this expansion, India has not secured sufficient returns from the quantitative expansion of scientific research and education. India is not using her considerable potential to the fullest. The factors for this state of affairs must be identified, and measures formulated to tackle them with a definite time-frame, both short term and long term.

And some of the major national problems, with a high science and technology content, must also be identified, to indicate how all available scientific and technological resources in the country can be mobilised to tackle them. For example, hardly anything has been done in the field of using the resources of our seas. Even in surveying the country's natural resources, work done so far has not been intensive. The management and organisation of India's scientific research needs should be studied in greater depth. One wonders if the major scientific agencies in India have a well thought-out and coherent policy guiding research grants and fellowships they provide to universities.

A great deal can be done in the formulation of joint research projects between groups in Government laboratories and universities and laboratories.

If we are to go forward with confidence to plan and organise our scientific and technological programme on a realistic basis for the coming decade, we must bring about a basic change in our approach to the management of scientific and technological institutions, which are engaged in research or instruction.

The important issues are three: the balance between the need for freedom of research and the requirement of accountability of research institutions; basic change in personnel practices as applied to scientific and educational institutions; and the democratisation of decision-making in laboratories, universities and scientific agencies—in fact, in the scientific system as a whole.

We should not merely diagnose the malaise afflicting science and technology but must focus our attention on the basic problems, which arise out of social—and the psychological—environments in which Indian science and technology must grow. The questions regarding the goals to be achieved in, terms of enhanced production capacity, or the supply of new goods and services—the scientific and technological means available to achieve these goals—and so on—will have to be answered by the development plan. The prime responsibility of evolving the overall strategy should be with scientists and technologists, but major contributions will have to be made by institutional representatives of the scientific community.

It is rather disturbing to find that the leaders of this community, who should guide the government in identifying the imbalances to be corrected and initiatives to be taken, themselves look towards governmental bodies most of the time. Scientists have been called "the minority in league with the future". But in India, signs of such "conspiracy with the future" are not visible. Indian science seems to be growing within watertight enclosures, without the necessary communication between the different units.

It is said that quite often science does not offer new models of civilisation, but only more and more sophisticated forms of barbarism. Did we become better citizens or human beings by going to the moon? We add to knowledge but what do we do with it? It is a question, which must always go side by side with whatever other work we do.

There are immediate problems like cleaning up the rivers and lakes, and removing pollution from the air. It is an immediate problem in a city like Calcutta or Bombay—even in Delhi because of the DTC buses. So, whatever is done, it should be looked at from all angles, to see if there is any possible evil effect, so that simultaneous steps are taken to avoid or minimise them.

—From an address to scientists, technologists and educationists at Coimbatore, last year

The Aim of The Scientist is Self-Reliance at C. S. I. R

Research establishments of the Council of Scientific & Industrial Research have undertaken several projects for achieving self-reliance in industrial production by an effective utilisation of India's natural resources.

They carry out investigations to develop both new processes and new products to suit indigenous raw materials, to substitute materials either scarce or in short supply, and to reduce dependence on foreign sources. They attempt also at developing beneficiation techniques to up-grade sub-grade materials, and to find utilisation channels for industrial waste materials and by-products.

This is an assessment of some of the recent notable contributions of the CSIR to national economy, with particular reference to import substitution.

Electronics : has found application, not only for entertainment but also for industry, science and defence. Central Electronics Engineering Research Institute (CEERI), Pilani, and National Physical Laboratory (NPL), New Delhi, have made significant contributions towards the growth of this technology in India. The *excitation control system* for the diesel electric locomotives project of CEERI is expected to save many lakhs in foreign exchange every year. TV receivers designed and developed from both the available, and the specially developed indigenous components and material, are already under production having reduced imports significantly.

NPL's processes for making ferrites of hard, soft and professional grades, and microwave components have saved worth Rs 27 lakhs a year in foreign exchange.

A six-digit, two-function—addition and subtraction—electronic desk calculator has been both designed and fabricated by NPL, mostly from indigenous components. Another calculator, that can add, subtract, multiply or divide, developed by National Aeronautical Laboratory (NAL) at Bangalore, costs between Rs 3,000 and 15,000. Our annual demand of imported electronic calculators is estimated at 20,000 units. At an average cost of Rs 7,500 and market demand at 20%, the annual saving in foreign exchange should be about Rs 3.75 crores.

Leather : The country has been importing syntans valued at Rs 20 lakhs—and other auxiliaries worth Rs 1 crore annually. Indigenous tanning material and improved tanning and finishing processes at Central Leather Research Institute (CLRI), Madras, have replaced the use of scarce and imported materials of the value of Rs 2 crores a year.

CLRI's another equally important process is for manufacturing dry-ready-to-wet sausage casings, the patent for which has been filed in 23 countries. It is expected to fetch a big return in foreign exchange. Tie and dye types of leathers, with floral designs for clothing, developed by the institute, are attracting the international market, and are expected to earn sizable amounts of foreign exchange.

Glass & Ceramics : Scientific research in glass and ceramics has considerably helped import substitution. Most products and processes—such as bricks from waste mica, optical glass, infra-red glass, quartz, water filter candles, etc. — developed at the Central Glass & Ceramic Research Institute (CGCRI)—have resulted in an annual saving of about Rs 243 lakhs.

Chemical Technology:

The Hindustan Organic Chemicals is putting up a plant to produce 2,000 tonnes of the hitherto imported acetanilide, valued at Rs 1.25 crores, on the basis of a process developed by National Chemical Laboratory (NCL), Poona, Worth Rs 80.25 lakhs of dioctyl and dibutyl phthalates—widely used as plasticisers—are imported annually. NCL's processes, with turn-key designs for setting up the plant, have been leased out to two firms; one has already gone into production. The annual turnover is expected to be 5,000 tonnes (Value: Rs. 3.75 crores).

Similarly, the process for producing hydrogenated caster oil, developed by the Regional Research Laboratory (RRL) at Hyderabad, has earned so far nearly Rs 75 lakh worth of foreign exchange. Silicon Carbide, which has a range of several industrial and strategic applications, is also being produced through a process developed by this laboratory. A prototype furnace, too, has been built and commissioned. The present requirements, amounting to over Rs 40 lakhs/annum, are met mainly by imports. The process has been leased for commercial exploitation.

Ion-exchange resins find use in a wide variety of ways e.g. water treatment, food, pharmaceuticals, and the recovery of valuable wastes and effluents of chemical industry. Over Rs 40 lakhs estimated worth of cation and anion exchange resins are imported annually. Several laboratories, including Central Fuel Research Institute (CFRI), Dhanbad, National Chemical Laboratory (NCL), Poona and Regional Research Laboratory (RRL), Hyderabad, are working on ion-exchange resins. The important resins developed and commercially exploited are: Caribion (CFRI), Lisasorb (CFRI). Cation exchange resin from Cashewnut shell liquid (NCL) and Anion exchange resin from melamine (NCL). Their entire production value is estimated at Rs 60 lakhs.

Food:

The process developed by the Central Food Technological Research Institute (CFTRI), Mysore, for the manufacture of baby food has resulted in saving foreign exchange worth Rs 42 crores. A premium worth Rs 14.264 lakhs has been earned by CFTRI.

Structural Engineering:

Studies made by the Structural Engineering Research Centre (SERC), at Roorkee, have shown that steel used as reinforcement could be saved to the tune of 30%—Rs 45 crores per annum—by using an im-

proved quality of reinforcing bar, known as deformed bars, in all reinforced concrete structures. These high-yield strength, high-bond grip bars—developed by the Structural Engineering Research Centre (SERC), Roorkee—are being commercially produced by TISCO.

Systematic and comprehensive surveys, beneficiation and recovery work relating to iron-ores, tin copper, zinc, lead, chromium magnesium etc., ores, limestones, graphite, diamond glass sands, china clays, gypsum, talcs, kyanite, etc. have been done by National Metallurgical Laboratory (NML), Jamshedpur; NCL, Poona; NPL, New Delhi; Regional Research Laboratory (RRL), Bhubaneswar; National Geophysical Research Institute (NGRI); Hyderabad; CGRI, Calcutta, Central Electro-Chemical Research Institute (CECRI), Karaikudi; Regional Research Laboratory (RRL), Jorhat; Central Building Research Institute (CBRI), Roorkee and others. This aspect of work has made notable contributions towards import substitution and the consequent increase in national wealth.

Similarly, expert laboratory advice to industries has saved the country from injudicious depletion of scarce, high — grade minerals, by utilizing low — grade materials through benefications: a flourspar benefication plant of the Gujarat Mineral Development Corporation, commissioned at Ambadnagar, Gujarat, is a case in point: it is based on a process developed by N.M.L., Jamshedpur. The plant has a rated capacity for producing Rs 40 million worth of flourspar annually. It will help save the country's foreign exchange to the tune of Rs 3 crores/annum and will give an impetus to the establishment and development of several chemical, metallurgical and ceramic industries. Whereas the total value of coal benefication plants designed and based on the data supplied by the Central Fuel Research Institute (CFRI), Dhanbad was about Rs 30 crores, considering the consultancy value, these laboratories would have earned, under normal circumstances, several crores in royalty from these projects. But those are invisible gains, which the country has earned through national laboratories—From CSIR Press Release.

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UNIVERSITY NEWS

What's the Royal Society Doing for the Young Scientist?

J. G. Crowther

Writer on the History & Social Relations of Science

The Royal Society of Britain is the oldest and most famous scientific society. Like most societies, it was founded, in 1660 by young and enterprising men of talent. The leading figure was John Wilkins, then aged 46, the brother-in-law of Oliver Cromwell. The other foundation members were Robert Boyle then 33, and Christopher Wren, just turned 28, who was an eminent scientist before he became an architect.

Isaac Newton was elected, in 1671, at 29. His incomparable work, *The Mathematical Principles of Natural Philosophy*, was published in Latin, by the Royal Society, at the personal expense of its 31-year-old assistant secretary, Edmund Halley, the discoverer of the comet named after him.

The dominant figure in the Society during the later part of 18th century, was Joseph Banks, who was elected in 1766 at 22, became its president at 34, and continued for 42 years in that capacity.

When 25, Banks was a naturalist on Captain Cook's voyage in 1768-69 round the world. During their visits to Australia and New Zealand, Banks saw their possibilities as future agricultural colonies of the Crown. He introduced cultivation of the tea plant from China into Malaya, and inspired the famous voyage of Captain Bligh of the *Bounty*, thus introducing bread-fruit trees from Tahiti into the West Indies.

Banks was an outstanding representative of progressive agricultural aristocracy of the 18th century, which was superseded by the pioneers of the Industrial Revolution. Banks was succeeded, as president, by Humphery Davy, who consciously set out to advance the science of industrial processes. Elected in 1803 at 25, he became president at 41.

Davy's major achievement was the invention of the miner's safety lamp, which increased the output of coal and the British lead in industrial development. His laboratory assistant, Michael Faraday, was elected in 1824—seven years before he discovered electromagnetic induction — and 22 years before he conceived at 54, electromagnetic vibrations, or radio waves.

Charles Darwin was elected Fellow at 29—20 years before he published his epochal *Origin of Species*.

Thomas Henry Huxley was elected in 1851 at 26, and John Tyndall in the following year at 31. Kelvin and Maxwell were elected at 26 and 29, and J. J. Thomson and Rutherford at 27 and 31.

Throughout the Royal Society's history, most of the British scientists who became famous were elected,

much before they became widely known. And the tradition continues to this day.

Among the British Nobel Laureates, is Professor P.A.M. Dirac, who—40 years ago—conceived relativistic quantum mechanics, anti-matter and the anti-universe—possible states of matter which are like a mirror image of ordinary matter in terms of structure. He was elected at 27.

Lord Blackett, who was the first to photograph the disintegration of the atom, was elected at 35. The physiologist, Lord Adrian was elected at 33 and Sir Peter Medawar, the leading authority on immunity on which surgical heart-transplants depend, at 34.

The brilliant band of British molecular biologists like Dr F.H.C. Crick, Dr J.C. Kendrew, Dr. M.F. Perutz and Prof M.H.F. Wilkins, who have done so much to unravel the molecular structures, on which biological heredity and other essential processes of life depend, were elected between 1954 and 1960, at ages ranging from 39 to 43.

At the beginning of the Seventies, the Royal Society had 37 Fellows, below 45, and three even younger than 40 (like the Mathematicians, J.F. Adams and C.T.C. Wall, and the Geo-physicist, O.M. Phillips).

Mathematicians and theorists are usually the earliest to mature. Adams and Wall are international authorities in the recondite field of topology. Phillips has written, particularly on the surface waves of the ocean, and the interaction between ocean waves and the atmosphere.

Among those under 45, are the eminent mathematicians M.F. Atiyah and K.F. Roth, elected respectively, at 32 and 34, both of whom have received the highest international mathematical honour, the Fields Medal. Atiyah, who is Savilian Professor of Geometry at Oxford, is the son of a noted Arab publicist. His contributions to topology and several other major branches of mathematics have been profound. Both have solved problems in the theory of numbers which had baffled mathematicians for centuries.

Dr N.A. Mitchison, a grandson of J.S. Haldane, was elected at 38. He is director of the experimental biology division of the National Institute for Medical Research in London, where he investigates immunity in animals other than the human, and pursues research which has a fundamental bearing on cancer.

A.R. Battersby, who has been appointed to a chair of organic chemistry in the famous Department of Chemistry at Cambridge, was elected to the Society when he was 41. He has published much on the chemistry of natural products, especially on alkaloids.

Desmond King-Hele was elected at 38. After the launching of the first artificial satellites, he took the lead in the determination of the properties of the upper atmosphere, and the earth's gravitational field, from an exact analysis of their motions. He combines international eminence as a theoretical astronomer with notable contributions to literature. His book, *Shelley: His Thought and Work*, contains a unique study of the influence of scientific ideas on Shelley's poetry.

THE NUCLEAR RESEARCH LABORATORY AT I.A.R.I.

An Exercise in inter- constitutional and Inter-disciplinary Collaboration

●
M. S. Swaminathan

The decision of our Government soon after the country became independent that we should become self-sufficient in our food needs meant in operational terms that we must bend our talents and energy to make the eroded and hungry soils of our country yield more through scientific land use planning and new cropping patterns designed on the integrated application of principles of economics and ecology. The new strategy of agriculture introduced in 1965 was based on this principle and demanded for its success a dynamic research base. This was what was proposed to be achieved through the reorganisation of the Indian Council of Agricultural Research in 1965 and the consequently increased support to agricultural research, education and extension. The 30 million-rupee Nuclear Research Laboratory project, which our Prime Minister recently inaugurated, is a symbol of a new will in the country, to ensure that no man will go without his daily bread.

In its conception and development, this project has been guided by five major principles. First, we wished to follow the advice of the late Prof. C.V. Raman that we should resist the temptation to build monuments for science where beloved instruments lie buried. In other words, we had to carefully weigh the benefits of every piece of equipment on which money was to be spent with regard to its utility in getting data on priority areas of research. Secondly, inasmuch as it would be both wasteful and unnecessary to duplicate such expensive facilities within the

country, in-built provision should exist for sharing the facilities with the staff and students of other agricultural Universities and institutions in the country, so as to use the expertise and equipment for solving the complex problems of different agro-climatic and soil zones. To achieve this aim, about a third of the available space in our Laboratory is being reserved for guest scientists and students. Thirdly, to make a worthwhile contribution to agricultural development and agrarian prosperity, the linkages among plants, animals and man should be viewed as a system and not merely as isolated components. This could be achieved only by linking up through a coordinated grid the scientists and institutes where major efforts on the application of nuclear tools can be generated. It is for this purpose that we entered into a working partnership with three other national research centres, the Bhabha Atomic Research Centre, Trombay, the Indian Veterinary Research Institute, Izatnagar and the National Dairy Research Institute, Karnal, in the study of problems of immediate relevance to our rural economy. Fourthly, much of the spectacular scientific advance, particularly as related to the application of physical tools in agricultural and biological research, owes its origin to synergistic interactions among scientists belonging to different disciplines and to different countries. Hence, the provision of expert services by the UNDP has been most valuable and the principle we have followed in the choice of experts is the complementarity of expertise and experimental skill. It is our hope that such a mutuality in benefits would help to foster research partnership between visiting experts and our scientists—it would transcend the official life of the Project in its present form.

Finally, we live in an age when the half life of a piece of scientific information is getting shorter and shorter. This would imply that unless urgent steps are taken to exploit a research finding, the work underlying that particular finding would become obsolete. The practical utility of a research system would therefore, depend on the steps taken to deliver the results to the user as speedily as possible.

After having stated the basic principles guiding those responsible for initiating and implementing this Project, I would like to indicate briefly how we have attempted to achieve these aims. We have an Advisory Committee for the Project, which deals with priorities in research and progress in implementation. There is a Steering Committee for the Project which meets frequently in the different collaborating institutions and attends to all problems connected with the formulation of research projects and their successful implementation. When results of extension value are obtained, they are passed on to an Extension Committee, headed by the Secretary, Ministry of Agriculture, for action designed to convert the scientific finding into a social benefit.

The Project was officially started in October, 1968, and thanks to the dedication of the research workers and students associated with this Project, much work has already been done during the last 3 years, although the additional laboratory facilities have be-

come available at this Institute only now. Thus, agronomic techniques for maximising the return from investment on fertilizers, and for improving soil fertility, valuable mutants of cotton, linseed, mustard, castor, rice barley and jute, rapid screening procedures for studying the oil and protein content of crops as well as their root systems, and measures for controlling some of the pests which damage grains during storage have all been developed at IARI under this Project. In addition, several training courses have been organised. At the Bhabha Atomic Research Centre, Trombay, several high yielding mutants of groundnut and control measures for the red palm weevil of coconut and the potato tuber moth involving radiation-induced sterility in males have been developed. Research at the National Dairy Research Institute at, Karnal, has helped to understand some of the basic problems of milk production in different breeds of cow. At the Indian Veterinary Research Institute, Izatnagar, which is the fourth partner in this exercise in inter-institutional collaboration, a radiation, attenuated vaccine has been successfully developed against the lungworm which is a serious menace to the sheep husbandry of the hills of Jammu and Kashmir, Himachal Pradesh and Uttar Pradesh. According to surveys, this infection which may lead, to pneumonia and death, can often be higher than 50 per cent. Following extensive laboratory studies on the effects of ionizing radiation on the larvae of lungworm, a vaccine comprising infective larvae of lungworm irradiated with 50,000 r of gamma rays was developed. A pilot experiment was conducted with this vaccine on 6000 sheep in Kashmir during 1970 and 1971. The results indicate that the vaccinated sheep showed a significantly reduced infection and better body weight and wool production. We are now proposing to the Extension Committee an integrated sheep improvement project involving the administration of the oral vaccine, castration of non-descript males, introduction into the flock of superior rams and sowing of better forage and feed crops. Great benefits will accrue from small investments in such programmes as combine health care and nutrition with genetic upgrading.

The late Shri Jawaharlal Nehru, while dedicating to the nation the "Apsara" Reactor at Trombay, which marked our entry into the nuclear era, referred to the contrast between the power of science as symbolised by the Apsara Reactor and the power of spirituality as represented by the Elephanta Caves on the opposite side of the Bay. He wanted that, for lasting peace and human progress, the two forces should be blended but in this world dominated by the products of science, darkness and light still co-exist in human relationships. Shrimati Indira Gandhi, while dedicating the Nuclear Research Laboratory to the service of the Indian farmer, said: "So long man is *Homo sapiens*, darkness and light will continue to co-exist in his behaviour," but hoped that scientists would try to shed more light than darkness. The staff and students of N.R.L. will strive their best to illumine the path leading to agrarian prosperity and productive rural employment.

THE ROYAL SOCIETY

COMMONWEALTH BURSARIES

Applications are invited for awards under the Royal Society Commonwealth Bursaries Scheme, the purpose of which is to provide a means by which scientists of proven ability may increase their competence by working with scientists of a Commonwealth country other than their own, where the physical or personal environment is peculiarly favourable. The bursaries are for enabling such scientists to pursue research, learn techniques, or follow other forms of study in the natural and applied sciences. In the latter, Royal Society and Commonwealth Foundation Bursaries will be devoted especially to agriculture, fisheries, forestry and the development of natural resources.

Applicants are expected to occupy permanent salaried posts to which they will return at the end of the visit, normally six to twelve months, depending on the project to be completed. Study towards higher degrees or diplomas is specifically excluded. Bursaries may provide for travel and an allowance towards maintenance at an average rate of £80 per month depending on the applicant's circumstances and living costs in the country to be visited. No specific provisions are made for families.

Application forms and copies of the detailed regulations governing the scheme may be obtained from the Executive Secretary, The Royal Society, 6 Carlton House Terrace, London, SW1Y 5AG, to whom completed forms should be returned to arrive before 15 March each year for proposed visits commencing in July of the same year and later, and before 15 September for proposed visits beginning in January of the following year and later. These closing dates cannot be varied and applicants are strongly advised to make their arrangements as early as possible.

PHOTOBIOLOGY

A MULTIDISCIPLINARY SUBJECT

DR. K. K. ROHATGI - MUKHERJEE
JADAVPUR UNIVERSITY

The all pervasive influence of visible and ultra-violet light on biological systems of various degrees of complexity has led to the development of a multidisciplinary subject, which has come to be known as "Photobiology." The subject draws in its field, all those scientists, who are interested in studying the effect of light on biological systems. Thus, it is defined not by biological divisions but rather by physical parameters.

Animals and plants are composed of complex organisations of cells of many specialised kinds, each cell having a complex organisation of molecules interacting in complex chemical ways. The fact that initial absorption of light by the chromophoric groups of specific molecules may lead to responses detectable at the molecular level in the form of excitation of singlet or triplet energy states of the molecules that compose the intact organism, and the observation that the response time may vary from a fraction of a second to the seasonal migration of birds, can bring together scientists working in various disciplines but interested in the role of light in life processes. The photobiologists have much to learn from each other, since it is difficult for a scientist in any individual discipline to dabble experimentally and critically in all of the heterogeneous areas of photobiology.

Every form of life on this planet of ours runs on sunlight. The photosynthesis in plants, initiated by

light from the sun's rays produces complex organic molecules of which plants and animals are composed. Those plants and animals, which are incapable of photosynthesis, live as parasites on photosynthetic plants. The radiations from the sun comprise the whole spectrum of electromagnetic radiations ranging from gamma rays to radiowaves. The wavelength of gamma-ray is of the order of 10^{-10} cm, whereas that of the radio waves may be miles long. But only a part of this reaches our earth and, of that, only a small part is visible to our eyes. The portion of the spectrum which is visible to man lies between 380 nm (violet) to 760 nm (red). One nanometer (nm) is 10^{-9} meter. At very high intensity of illumination, this may stretch from about 310 to 1050 nm. This is also the range of vision of all the other animals. Besides all types of photosynthesis, certain other phenomena like bending of plants towards light (phototropism), the oriented movement of animals towards, or away from, light (phototactic responses), dependence of plant growth on duration of light and dark periods (photoperiodism), etc., are also initiated by radiations that lie within this wavelength range. This is the domain of photobiology and this is the domain that we call light. Apparently, this choice of wavelength has been determined not by chance but by the task allotted to light, i.e., to help in the synthesis of life-giving chemicals in the nature's laboratory.

All chemical reactions involve making and breaking of bonds. The energy requirements for these processes lie between 120 kcal and 30 kcal per mole, which corresponds to the energy available from a mole of quanta ($=6.02 \times 10^{23}$ quanta) of light of wavelength, lying approximately between 240 nm and 950 nm. Another way, in which energy is involved in a chemical reaction, is in the form of energy of activation, i.e.: the energy necessary to cross the barrier for a successful completion of reaction. At any moment, only a small fraction of the 'hot' molecules are capable of reaction. In thermal or dark reaction, they are produced by heat energy, whereas in photochemical reactions, light energy is utilised. The energy requirement varies from 15 to 65 kcal/mole energetically equivalent to 1900 to 440 nm radiations.

Photobiology is actually confined within a range narrower than photochemistry. The radiations of higher energy than corresponding to 300 nm are incompatible with the orderly existence of such large and highly organised molecules as proteins and nucleic acids. The functions of these macromolecules in the life-processes depend on their delicate and specific configurations. They are held in suitable configuration by relatively weak forces of hydrogen bonding and van der Waals attraction. Radiations of wavelengths, shorter than 300 nm destroy the orderly arrangement and, hence, denature proteins and depolymerise nucleic acids with disastrous consequences for the cell. For this reason about 300 nm represents the lower limit of radiation capable of promoting photoreaction yet compatible with life. It is not surprising that life became possible on our earth because the right kind of light energy was available as also the

correct temperature.

The subject of photobiology is studied at different levels:

1. Effects of light on the whole animal or plant, e.g. phototropism, photoperiodism, sun-burn and incidence of skin diseases, etc.
2. Effects of light at cell level, e.g. movement of chloroplasts, production of melamin in skin, micro-electrical responses of the retina, Calvin cycle in photosynthesis, etc.
3. At molecular level, it involves identification and isolation of light-absorbing molecules.
4. Examination of photoreaction of extracted substances.
5. Attempts to connect photochemical processes of molecules with other processes of cell chemistry. Many reactions are affected by cell organisation, whereby substances in the extracted state have different properties from those built into the cell structure, e.g. chlorophyll, polynucleotides, etc.
6. Application of photochemical theories to extracted substances—singlet and triplet states, luminescence, energy degradation, energy-transfer, photo-oxidation, photosensitization, bimolecular photochemical interaction, etc..
7. Comparative study of effects of short wave and long wave u.v..
8. Unique nature of chlorophyll as efficient energy storer, the function of chloroplasts.

The different photobiological processes are activated by different regions of the spectrum mainly because of the variation in the absorption characteristics of the molecules which are responsible for the changes. These can be identified by the respective action spectrum.

The action spectrum of photosynthesis corresponds to absorption by chlorophyll, the green pigment in the leaves. The essence of photosynthetic process is the use of light energy to split water. The hydrogen from water is utilised to reduce carbon dioxide or other organic molecules and oxygen is released into the atmosphere. It is the reverse of respiration. Although 120 kcal of energy is required to reduce one mole of carbon dioxide to the level of carbohydrate, it is carried out in plants with very high efficiency in spite of the fact that chlorophyll absorbs about 42 kcal per mole at a time. Other pigments, like carotenoids, also promote photosynthesis. These and various other mysteries are being gradually worked out from the studies in model system at the molecular levels. The collaboration between chemists, physicists and biologists is needed to understand the role of photosynthetic unit, mechanism of energy transfer processes, phenomenon of cooperative excitation, exciton interaction in chloroplasts, function of membranes in energy storage etc.

The role of light in vision is fundamentally different from its role in photosynthesis. In the latter, the light does work, but in vision light only triggers the process of vision. This process is said to be that of the change in the geometry of the molecules of the

pigment retinene. The cis-trans isomerization reaction of retinene brought about by light absorption stimulates vision. Because we interpret the world wholly through our eyes, it is always a bit difficult for us to realise that eye can have any other function than just the act of image formation on the retina. It is now becoming evident that light stimulates the hypothalamus glands of animals via eyes. This, in turn, activates the reproductive and other endocrine glands. The effects are wavelength dependent.

The physiological functions of both animals and plants are affected by the wavelength and the intensity of light. For example, apple will not ripen if u.v. is cut off from the light; morning glory will not flower if red light is not present; lotus opens with the first ray of the sun and closes at sunset. The subject of photomorphogenesis is now being studied at molecular level to find an answer to the question: what are the casual relationships between the photo-responses which we can plainly see and measure? Involvement of genes is inevitable. Photophysiology of plants has far reaching implications in agriculture, in the development of varieties, either by crossing or by mutation, which will flower at various times of the year, adjusting to various periods of day and night.

The genetic information in the cell is borne and transmitted by the nucleic acids. Thus the hereditary characters are transferred through generation. These macromolecules are damaged by light shorter than 300 nm leading to mutation or even cell death. In order that these macromolecules function undisturbed, there apparently exist mechanisms which, within certain limits, protect the cell from damaging influences, or repair such damages. Therefore, a study *in vitro* of the photo-chemistry of nucleic acid, the energy levels of the constituent bases, the problem of energy transfer in DNA, the role of helical configuration, the site and type of genetic damage and similar problems will help in the understanding of such phenomena as mutation, photoreactivation and photodynamic effects. The therapeutical use of germicidal lamps in medical practices, the effect of u.v. on viruses and bacteriophages and its employment in vaccines and other products intended for clinical use enlarge the field covered by photobiology. The action of dyes on fungus infections is utilised by medical practitioners without a thought of its photodynamic action. These, as also the use of radiation therapy in cancer treatment, are likely to interest medical people in the subject of photobiology.

Thus, many of the fundamental processes in biological systems can be efficiently explained from the phenomena in physics and chemistry, especially solid state physics and basic photochemistry. Since light plays a vital role in biological systems, energetics of many processes can be understood from modern approach of quantum mechanics, from the study of energy levels of biological molecules and their behaviour in model systems. A complete understanding will involve the study of both photophysical and photochemical processes initiated by the act of light absorption which may radically alter the cell chemistry with subsequent effects on the whole animal or plant.

been worked out to be very high: which means that the population of these insects could increase 2.28, 2.22 and 2.89 times per week. This, indeed, is a tremendous rate of increase in their population, even if attained during the hot months of the year.

Under natural conditions, the rate of population increase is reduced, as environmental conditions deviate from the optimum. The optimum also varies with the species concerned. Thus, even subtle changes in the level of moisture and temperature would result in the predominance of one or the other species of pest. For example, in northern India, *khapra beetle* and the lesser grain borer (*Rhizopertha dominica*) multiply more rapidly in the pre-monsoon summer, when temperature is high and relative humidity low. These conditions are not conducive to the multiplication of rice weevil (*Sitophilus oryzae*) and the grain moth, which both need a lower temperature (round 30°C.) and higher humidity (above 70 percent). Furthermore, there is often a positive interaction between different species, in that the one makes the conditions more favourable for the other, either by increasing the moisture content of the food, or by opening a way for another species, such as *Tribolium castaneum*, which by itself is not able to bore into the whole grain. In other words, stored grain pests themselves influence the micro-environment by bringing about changes in temperature and moisture, by transferring moisture from one part of the grain heap to the other, and by creating heat spots through metabolic activity.

In the tropics, physical factors of the environment are more or less uniform throughout the year and provide favourable conditions for the multiplication of stored grain pests. In temperate regions, on the other hand, physical factors, especially temperature, fluctuate between extremes — which is not favourable for these insects. In fact, exposure to extremely low temperature, as in the winter, can be used for control of these pests. In our country, such subzero temperatures do not

Indian climate provides conditions conducive to the multiplication of a number of insect pests of stored grains. Even in Northern India, where there is extreme cold, favourable conditions of warm temperature and high moisture are available for the remaining 5-8 months. Under these conditions, these insect pests multiply at such a rapid rate, that they damage large quantities of grain, stored without proper care. Although it has not been possible to estimate grain losses with adequate accuracy, the most conservative estimate ranges from 7 to 10 per cent: which alone, if saved, could meet India's food deficit. The storage problem assumes still greater importance in areas, where increased grain production has to be safely stored, till it is moved to food deficit places. Besides insect damage, the growth of microorganism and the prevalence of high moisture also considerably damage the quality of grain.

It is now well-known that stored grain insects multiply at a very rapid rate under optimum conditions, which, besides food, include suitable temperature, moisture, oxygen, subdued light, etc. Laboratory experiments have shown that, when optimum conditions are provided to these insects, they have a very high intrinsic rate of increase (rm). For example, the infinitesimal rate of increase (rm) of the *khapra beetle* (*Trogoderma granarium*) (0.119), the grain moth (*Sitotroga cerealella*) (0.097) and the moong dhora (*Callosobruchus analis*) (0.154) have

Safe Storage Of Food-grains In India

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exist anywhere, except at very high altitudes; this method of control can seldom be, therefore, practised. In the winter northern India, the temperature is barely low enough for the population of these insects to come to a stand-still; and the life of the insects is prolonged. As soon as environment becomes favourable these insects start multiplying again.

A high level of moisture content—between 11-15 per cent—is conducive to the multiplication of most of the stored grain insects, except the *khapra beetle* which can feed and breed on grain containing as low a moisture as 2 per cent. A still higher level 16-20 per cent moisture encourages growth of microorganism. There is also a further rise in temperature due to increased respiration.

The minimum concentration of oxygen required for different species is 4-7 per cent, except in the case of *khapra beetle*, whose eggs do not survive, even if oxygen is less than 15 per cent. This is considered to be the reason why *khapra* infestation is often confined to the upper 30 cm layer of a heap of grain.

The main aim of safe storage should, therefore, be to limit the increase of pest population by creating unfavourable conditions. The best thing in this direction would be to prevent the access

WHO'S WHO

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FOCUS

THE INDIAN SCIENCE CONGRESS

CALCUTTA, 20 FEBRUARY, 1972



Emergency has brought about new adjustments everywhere in the country. And the Science Congress, which opens on February 20 at Calcutta, is no exception. This — the fifty-ninth session of the — congress was initially to have been convened, instead, at Aligarh University last month.

The session characterises the fifty-ninth birthday of the congress — (may we wish them Many Happy Returns!)

Conceived in 1914 by two silent men of Chemistry — Professor J.L. Simpson and Professor P.S. MacMahon — the congress had a foster-mother in the Asiatic Society of (the then undivided) Bengal. The idea was to bring together scientists, representing all disciplines of Science, to compare notes annually somewhat on the lines of the British Association.

Accordingly, a conference was convened at the initiative of the Asiatic Society on November 2, 1912; and, upon conclusion of its deliberations, a full-fledged Science Congress was born.

The first session of this nascent congress was held from January 15th to the 17th 1914; it was presided over by the irrefragable Sir Asutosh Mookerjee, who ran it severely like a good and proper Victorian headmaster. Some 105 scientists, divided into six sections, read some 35 papers.

The congress was maintaining a somewhat shaky keel, until the year of India's freedom: 1947 was a high water-mark, and it suddenly changed into high gear like the rest of India — the motivating force behind both being the same Jawaharlal Nehru. From then on, it was all downhill — the membership which was a mere 105 in 1914, rose to 6000 strong just in about 14 years; and, as against some 35 papers read before, some 1600 is the rule now. Within them, they represent nearly all of the disciplines of science.

of these insects and thus to deny them the food. This can be achieved by the use of insect proof receptacles. In case the old receptacles are used, these should be disinfected by fumigation.

The moisture content of the grain, during the storage period, has a regulating effect on the pest population of most stored grain insects. The *rice weevil* would not lay eggs on grain having less than 10 per cent moisture. All insects, except *khapra beetle*, fail to bore into the sound grain when moisture content is below 5 per cent; and even when it is less than 8 per cent, there is no substantial increase in the population of most insects species. The moisture content of wheat after harvest varies from 8 to 10 per cent but keeps on increasing progressively with the rise in atmospheric humidity, till an equilibrium is reached. An ideal receptacle would, therefore, be the one which allows least absorption of moisture by the grain.

Lethal limits of oxygen level have been made use of in airtight storage bins for long-term storage in certain countries. But it is difficult to have a completely airtight bin. Moreover, the depletion of the already present oxygen, depends on high moisture level of grain, the presence of insect in the bin, and the duration of storage. These factors are, however, incompatible with principles of safe storage. Airtight storage has thus little scope in India, where the moisture content of grain is not exceptionally high, and where most of the storage is done for a duration shorter than one year.

For the safety of grains from

insects, the three most important factors of environment, viz. moisture content of grain, availability of oxygen and development of temperature gradient have to be properly manipulated: firstly, through design and fabrication of storage structures and storage godowns and, secondly, through storage practices. If, however, these ecological safety measures are not practicable, recourse to chemical and physical methods becomes necessary.

The use of insecticides and fumigants should become a part of these practices. Malathion is a safe insecticide to protect grain from insect damage and aluminium phosphide, as a fumigant, is easy to handle for disinfecting bags, carriages and godowns.

To conclude: the main purpose of receptacle grain storage is three-fold: (i) not to allow insect damage; (ii) not to allow deterioration by microorganisms in grain quality; and (iii) not to affect germination of grains required for seed.

All indigenous receptacles, presently in use in India, do not satisfy these aims. Efforts to improve them have been made; and a code of practices for constructing different types of small storage structures has already been prepared and published by the Indian Standards Institution. The scientific requirements of these storage structures include the maximum possible protection from pests, controlled aeration, sufficient airtightness required for fumigation and smooth in-and-out movement of the grain. Similar specifications for large receptacles, too, need to be finalized in line with Indian conditions.

BERHAMPUR UNIVERSITY

University Campus, Rangailanda

Advertisement

No. 8/BU/Admn./72 dated the 4th January 72.

Applications are invited in the prescribed form (7 copies) obtainable from the office of the undersigned on payment of an application fee of Rs. 1.50 paise in person or by postal order in favour of the Registrar, Berhampur University, alongwith a self addressed envelope measuring 22x10 cms. affixed with postage stamps worth 0.85 paise (including Refuges Relief stamp worth 0.5 Paise) for the post of Professor in the Post Graduate Department of Physics of this University in the scale of pay of Rs.1100-50-1370-60-1600/- plus usual Dearness Allowance as missible by the University from time to time.

Qualification and Experience:

The candidate shall have:

- (i) A good academic record.
- (ii) At least 5 years experience as a Reader preferably with experience of teaching in P.G. Classes and a total teaching experience of not less than 10 years.
- (iii) Research Degree or outstanding published work of equivalent standard.
- (iv) Ability to guide Research work.

The applications duly filled in should reach the Registrar on or before 22.2.1972, candidates who are in service should apply through proper channel. Applications received after the due date will not be considered.

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The Institute for Atomic and Molecular Physics was founded in 1947. It used to be accommodated in the 'Zeemaninstituut' at Amsterdam University, and was headed by Professor C.J. Bakker. It was set up to separate isotopes of all the elements, for use in nuclear physics research. A few years later (in 1955, to be precise) the United States released the results of research in this sphere which, until then, had been kept secret. From then on, one could order isotopes from America by post, which was much easier and cheaper than continuing to make them oneself; the Institute had lost its purpose. Consequently, the emphasis gradually came to be placed on pure research.

The new arrangement became well established, when the Institute moved into the new building erected for it in Amsterdam. For ten years before that, it had been housed in one of the buildings belonging to the Municipal Gas Works and Power Station. The Institute's main job is to carry out research on physical and chemical processes that take place when atoms and molecules collide—work that is divided into five parts, viz:

—fundamental radiation damage to crystals;

—transport phenomena in gases, a field of research now regarded as becoming redundant because collision processes are claiming more attention;

—collision processes as they occur in the earth's ionosphere;

—the instability of plasmas when streams of ionised particles pass through them, this in close co-operation with the institute at Jutphaas;

—fundamental chemistry using atomic and molecular radiation.

All this is such an overwhelming scientific mouthful that the layman will feel very much inclined to hasten his steps as he walks past the entrance to the Institute. On the other hand, those who are allowed to peer into the atomic kitchen (under expert guidance, of course) will be fascinated by the absorbing scientific experiments being carried out. Although

THE INSTITUTE OF ATOMIC [AND MOLECULAR PHYSICS

F.O.M.

THE ORGANIZATION FOR FUNDAMENTAL RESEARCH OF THE NETHERLANDS

it would seem impossible to describe the complex processes in a language that everyone can understand, we are going to see what we can do to make the subject clear.

Fundamental Radiation Damage

The object is to expose a crystal to bombardment by ions, and see what damage the stream of ions have done to the crystal. Now you cannot buy a beam of ions at the ironmonger's round the corner; you have to produce it yourself. You can do this by separating the negatively charged electrons from the positively charged nucleus of the atom. Using a high-speed, directionally controlled beam of electrons, you can knock electrons out of their orbits around the positively charged nuclei. Then, using magnetic fields, you can accelerate the streams of ions thus produced, and focus them on the crystal. The direction and energy (i.e. velocity) of the ions are known and can be checked. You can analyse the damage to the crystal, and thus obtain an insight into the fundamental processes involved in radiation damage.

Collision processes

The atmosphere, enveloping the earth, protects everything that lives and grows on it against all manner of harmful radiations from space. The ionosphere is the outermost 'skin'—the first shield against radiation; here electrons, ions and photons collide, bringing about unimaginable reactions. One of the re-

sulting physical processes produces the fascinating Northern Lights. The Institute endeavours to probe the secrets of these processes, which take place far above the earth. The most powerful collision we can engender, is that between two beams of ions obtained from atomic nuclei that we cause to intersect at right angles. But this method will not work for low-energy collisions, i.e. collisions between particles, whose velocity is low, because ions are positively charged and so repel each other. If their velocity is high enough, they will keep together over a sufficiently long distance, thus constituting a beam of particles. If their velocity is low, they will immediately fan out, thus making it a practical impossibility to create a beam. A way has been devised for overcoming this. Ions are again made by electronic bombardment and then electromagnetically focussed into a beam. Now, instead of causing the beams of ions to intersect at right angles, we cause them to pass along two separate paths that merge to form a single path. The collisions that now occur may be compared to a pile-up between cars travelling in the same direction, one going at, say, 60 m.p.h. and the one behind going at 65 m. p.h. This can be called a 'gentle' collision. Physicists can draw conclusions from the effects of collisions brought about by this method; they use highly complex measuring devices to detect collision phenomena.

Instability of Plasmas

This part of the research work is closely connected with the work being done at the Institute for Plasma Physics at Jutphaas. These scientists are trying to find ways of achieving controlled fusion of hydrogen nuclei, nuclear fusion, which would be a much cheaper alternative to nuclear fission, a process that can be controlled and is currently being used as a source of power for ships and generating stations. The object of this experimental work is to place hydrogen at a very high temperature in a vacuum within a magnetic field, in such a position that it is kept away from the walls of the

vessel in which it is contained, thus preventing it from losing heat (i.e. energy) by contact with the vessel proper. The great problem is the stability of the plasma (or ions), which has a tendency to slip away, thus giving rise to inadmissible discrepancies between the energy required to maintain the high temperature of the gas and the reaction energy released. There are remedies for all the instabilities discovered so far but the problem is how to combine them to form a panacea. The men at Jutphaas are trying to discover practical solutions, while the institute at Amsterdam is endeavouring to find the ultimate causes of instability.

Fundamental Chemistry

The purpose of this part of the research work is to study the processes in which the atom or molecule, as a whole is involved. The bombarded atom is brought into a highly activated state which then relapses into the basic state. This is accompanied by the emission of electrons possessing relatively high energy, which give rise to phenomena that provide information on the wave characteristics of the cloud of electrons, the transfer of electric charges, ionization and the emission of photons.

Working Groups

The working groups, engaged in various research projects, consist of units headed by a qualified physicist.

Each unit conducts different experiments under a common heading. Many of the experiments are carried out by a small team consisting of a graduate, an under-graduate and a technician. The staff of the institute totals 150, which includes 50 university trained men, technicians (mainly technical college men) and clerical staff. The institute's annual budget totals about Rs. 8 million and is subsidized through the Organization for Fundamental Research on Matter (F.O.M.) and the Organization for the Advancement of Pure Research.

—From The Netherlands

INDIAN SCHOOL OF MINES DHANBAD

Entrance Examination 1972

Entrance Examination for admission to the first year class of the five-year integrated programme in Mining Engineering, Applied Geology, Applied Geophysics and Petroleum Engineering for the Session 1972-73 commencing on July 1, 1972 will be held on Friday, the 12th and Saturday the 13th May, 1972.

Likely Examination Centres:— Ahmedabad, Bangalore, Bhopal, Bombay, Calcutta, Chandigarh, Cuttack, Delhi, Dhanbad, Gauhati, Hyderabad, Jaipur, Lucknow, Madras, Nagpur, Patna, Srinagar and Trivandrum.

Qualifications Required:—(i) For the first year of the 5-year integrated programme a pass in the Higher Secondary examination in Science Stream or in the Technical Stream or Pre-University or Senior Cambridge or Indian School Certificate or an approved examination recognised as equivalent to these, with English, Physics, Chemistry and Mathematics.

(ii) For direct admission to the 3rd year of the 5-year integrated programme in (a) Applied Geology and (b) Applied Geophysics.

Candidates for Applied Geology programme must have passed the B.Sc. Degree Examination with Geology, Physics and Mathematics or Chemistry as the subjects of the Degree Examination.

Candidates for the Applied Geophysics programme must have passed the B.Sc. Degree Examination with Physics, Mathematics and Geology or Chemistry (preference to be given to first combination) as the subjects of Degree Examination. They must also have passed the (a) Higher Secondary (b) Pre-University (c) Intermediate or equivalent examination with Mathematics,

Physics, Chemistry and English as the subjects of examination.

Candidates appearing for the qualifying examination, as mentioned above, will also be eligible to apply but they should submit the necessary evidence of having passed the qualifying examination by June 30, 1972.

Candidates for direct admission to third year Applied Geology or Applied Geophysics Class of the 5-year integrated programme must make a separate application on the prescribed form along with mark-sheets of all the examinations passed by them. When requisitioning an application form the candidate should specify that he is seeking direct admission to the third year programme in Applied Geology/Applied Geophysics.

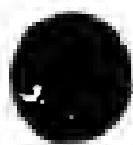
Age Limit

For the Five-year programme — Not over 21 (24 in the case of Scheduled Caste and Scheduled Tribe) as on October 1, 1972.

For direct admission to the third year programme in Applied Geology/Applied Geophysics Not over 24 (27 in the case of Scheduled Caste and Scheduled Tribe) as on October 1, 1972.

Prescribed application form and Memorandum of Information are obtainable on payment of Rs. 3/- (application form Re. 1/- plus postage etc. Rs. 2.00) by Money Order payable to the Registrar, Indian School of Mines, Dhanbad, upto March 15, 1972.

Applications in the prescribed form complete in all respects should reach the Registrar, Indian School of Mines, Dhanbad (i) by March 31, 1972 for admission to the first year programme and (ii) by the June 14, 1972 for direct admission to the third year programme in Applied Geology and Applied Geophysics.



JOHANNES KEPLER

THE GERMAN PHYSICIST WHO BROKE THE CODE OF PLANETS

WHEN astronauts execute their manoeuvres in space, when they fly out of an earth orbit towards the moon and ultimately land there, the genius of a German mathematician and physicist—born four hundred years ago—accompanies them.

A revolutionary in the history of natural sciences, Johannes Kepler (1571—1630) was born on December 27, 1571, in Weil der Stadt and completed his education in Adelberg, Maulbronn and in Tuebingen. He became a Professor of Mathematics at Graz, compiled an astronomical calendar and published the treatise: "Mysterium Cosmographicum." He was expelled from Graz on religious grounds and settled ultimately in Prague as the imperial mathematician. Here, he published

several of his treatises, constructed the first "Kepler Telescope," and formulated the laws of planetary motion.

Every time astronauts in flight round the earth, or to another planet, alter course or execute a coupling manoeuvre, they are using principles discovered by Johannes Kepler. Every time a spacecraft is launched towards Mars or Venus, the planners start from Kepler's findings, feeding their computers with only slightly amended versions of his planetary laws. "What are these "Kepler Laws" and who was the man that discovered and formulated them? On closer examination, a glittering many-faceted discoverer emerges, whose essential contributions to our era lie, not only in the

fields of astronomy and physics, but also in mathematics and other natural sciences.

His most important achievements, however, were in the field, for which Kepler is in fact most renowned — so-called astrophysics. After many years of laborious scientific work, he succeeded in drawing the conclusions which can be read today in any textbook, as *Kepler's three laws of planetary movement*: (1) The planets do not move in a circle round the earth but in elliptical paths round the sun, which occupies one focus of the ellipse; (2) A planet does not travel at constant velocity in its orbit but the areas described, in equal times, by a line drawn from the sun to the planet are strictly equal; (3) The squares of the periods of circulation round the sun of two planets are in the same ratio as the cubes of their mean distances from the sun.

At first sight, these statements appear very imple and harmless—so elementary that many people might doubt their value to today's space-flight experts. But neither did Einstein's simple formula $E=mc^2$, reveal to the layman that it contained the potential of the atom bomb. Kepler's formulae contained the potential of space flight. Not only did they open the door to a new age, but Kepler's laws also created order for the first time out of the chaos, which had existed for 2,000 years, weighing down like a nightmare on cosmology. In Kepler's time, most people still thought the planets and stars—indeed the whole universe—revolved round a fixed centre, earth. There were actually a few scientists who, inclined towards the view of the Prussian canon and astronomer, Nicolas Copernicus, that the sun was the centre of the universe. But the official academic view continued to place the earth at the centre of the universe, with everything else gyrating about it. Anyone, who thought otherwise, had to reckon with the opposition of the church, as Kepler's contemporary, the Italian scholar Galileo Galilei—found out; because he doubted the geocentric theory, he had to

face trial by the Inquisition.

In this intellectual climate, Kepler published his planetary laws; the first two in 1609 and the third in 1618. Not until after his death did other scientists grasp the full import of his discoveries. Then, however, it became clear that Kepler's carefully documented results were capable of leading astronomy out of a dead-end. The complicated mechanism was replaced by a single ellipse, along which a planet moves according to clearly defined laws.

Johannes Kepler, if he were alive today, would certainly be amazed at the multiplicity of practical navigational problems, occurring in flight along a curve prescribed by him: but also at the astonishing techniques developed for the solution of these problems—not least the contribution of the NASA computer, which now calculates in a few seconds what Kepler took several years to do. It cost Kepler several years of laborious work, without the aid of even the most primitive calculating machines, to develop his first two planetary laws. He published them in his book: "New Astronomy Or Physics Of The Skies." What looks so simple today, expressed as it were, in two short sentences, was achieved by Kepler only after a long, zig-zag, series of intellectual by-paths, "in a tedious and painful way. The second law, which he discovered, first solved the problem of variable planetary velocities, but the shape of their orbits was still obscure. The discrepancy of 8 minutes of arc between his calculation, and the observation of his Danish fellow astronomer, Tycho Brahe, had convinced Kepler that the orbit could not be circular. But what shape was it?

For a whole year, he struggled with a shape which could correspond to his calculations but would also satisfy his ideas of divine harmony and symmetry, which the circle so perfectly fulfilled. "The orbit is not a circle but an oval figure"—Kepler was already fairly sure of this. But to Kepler's mind an oval, a sort of egg shape, lacked any breath of divine perfection. It seemed to him almost

blasphemous to continue to think along these lines.

His day of victory came, when he recognised this oval as an ellipse. He said that it was as if he had been awakened from sleep and seen new light. After five years of strenuous effort, he had at last grasped the whole secret of the orbit of Mars and thus made the greatest discovery of his life: a curved form which corresponded exactly to Tycho Brahe's observations and his own calculations and could be expressed by a simple formula.

Only nine years later, after 22 years of work, Kepler discovered the third law. How, at last, he discovered the relationship he sought, is described by Kepler himself: "On 8th March (1618) the solution came into my head. But it was out of luck and when I checked the solution by calculation I rejected it as false. At last, it came back to me on 15th May, and its fresh assault overcame the darkness of my mind. It accorded so precisely with the data resulting from my 17 years' of work on Tycho's observations that I thought at first I must be dreaming, or have misconstrued the evidence..." In words overflowing with enthusiasm, he describes his joy at the mathematical relationship ultimately discovered: "Now having experienced the first dawn 18 months ago, daylight 3 months ago, and only a few days ago the full sun of a truly wonderful vision, nothing can hold me back. I abandon myself to divine frenzy—forgive me, I am so happy."

What Kepler thought and worked out in his lifetime was so fundamentally new that today he is generally reckoned among the founders of modern physics and astronomy, in fact of modern science as a whole. For him, as a serious thinker, all that counted was "the weight of facts and rational arguments alone, not the weight of authority" (Kepler on Kepler), and thus—by the deliberate rejection of hypotheses ("I never take the result for granted")—he became the founder of modern, unprejudiced, scientific thought.—From German News.

ANDHRA UNIVERSITY

Applications in the prescribed form are invited for two posts of **PROFESSORS**, one in Politics and one in English in the University College, Waltair.

QUALIFICATIONS:

(a) A first or high second class master's degree of an Indian University or an equivalent qualification of a foreign University;

(b) A research degree of a doctorate standard or published work of a high standard;

(c) At least **TEN YEARS** experience of teaching Honours and Post-Graduate Classes and some experience of guiding research. **SCALE OF PAY:** Rs. 1,100-50-1-300-60-1,600 and D. A. admissible as per rules.

The requisition for the application form accompanied by a self-addressed and stamped envelope may be made to Sri P. Hanumantha Rao, Deputy Registrar, Andhra University, Waltair. Each application shall be accompanied by a challan or Indian Postal Order for Rs. 10/- towards the registration fee.

The last date for the receipt of applications is 10-3-1972.

(BY ORDER)

University Office,
Waltair.
Dt. 4th Feb. '72.

Sd/- M. Gopalkrishna
Reddy,
Registrar.

UNIVERSITY OF KASHMIR

Applications (8 copies) on the prescribed form obtainable from the Registrar's office, University of Kashmir, Srinagar-6 on payment of Rs. 6/- in cash or crossed postal order drawn in favour of the Registrar, the University of Kashmir, are invited for the following posts:—

Post, Scale

1. Reader in (i) Library Science (ii) Education

(One each in (1) Indian Education and (2) Educational and Vocational Guidance—Rs. 700-50-1250.

2. Lecturer in

(i) Botany

(ii) Hindi and

(iii) Education (Comparative Education)—Rs. 400-40-800-EB 50-950

The scales carry the benefits of dearness allowance and dearness pay according to the University regulations.

II. The minimum qualifications prescribed for these posts in the University are as under:—

For Reader:

(i) A first or second class Master's Degree of an Indian University or an equivalent qualification of a foreign University in the subject concerned.

(ii) Either a Research Degree of a Doctorate standard or published work of high standard.

For Lecturer:

A first or second class Master's Degree of an Indian University or an equivalent qualification of a foreign University in the subject concerned.

Note:—Relaxation may be made in exceptional cases on the recommendations of the Selection Committee.

III. Special Requirements

(1) For Readership in Library Science the applicant should possess M.Lib. degree and must have about 5 years experience in the

work relating to the Library organization. He should also possess at least three years teaching experience.

(2) For Readership in Education the applicant must have at least 5 years teaching experience in the chosen field at the M.Ed. level and 5 years experience of guiding research.

(3) For Lecturership in Botany the applicant shall be required to have specialized in any one of the following subjects:—

Taxonomy of algae/fungi/Bryophyta-Ploridophyta/Economic Botany and Anatomy/Plant Soil relationships. The selected candidate will have to teach cryptogamic Botany, Anatomy or Soil Science.

(4) For Lecturership in Education the applicant must have passed Master's Degree in History or Cognate Field of Social Sciences with at least 2nd class M.Ed. Degree and 5 years' teaching experience of the M.Ed. course or else a brilliant first class degree in the field concerned or research experience.

Each candidate will specify the subject/subjects in which he/she may have specialised at the Post-graduate or Ph.D. level.

IV. The selected candidates will be on probation for one or two years on the basis of their merit. Provident fund benefit with University contribution at 8-1/3% p.a. will be permissible according to the University regulations from the date of confirmation.

V. Applications on prescribed forms accompanied by copies of recent testimonials and publications should be sent to the address of the Registrar, the University of Kashmir, Hazratbal, Srinagar-6 so as to reach him on or before February 29, 1972. Applications received on plain paper or incomplete in any respect will not be entertained.

VI. Applications by the Government Servants should be sent through proper channel, by University teachers through Registrars and by persons employed by private firms or institutions through the Head of the firms or

institutions. Applications not sent through proper channel will not ordinarily be considered.

VII. Selected candidates will have to present themselves for an interview at Srinagar and they will be paid T.A. at the following rates:—

(a) Return 2nd class railway fare from the candidate's nearest railway head to Pathankot or in case the applicant is already employed, actual return railway fare of the class to which he/she may be entitled according to the rules of his/her employer, provided a certificate to this effect is produced at the time of submission of T.A. bill.

(b) Return actual bus fare from Pathankot to Srinagar. In case of candidates belonging to the State actual bus fare from their respective home towns upto Srinagar and back.

(c) No daily allowance will be paid.

VIII. A suitable higher start may be considered for candidates with higher qualifications.

IX. Canvassing in any form by or on behalf of the candidate will be a disqualification.

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UNIVERSITY OF RAJASTHAN JAIPUR

ADVERTISEMENT NO. 1/72.

Applications are invited (through proper channel in case of those already in employment) upto 6th March 1972 on the prescribed form available from the Registrar's office on pre-payment of Rs. 4/- (Rs. 2/- extra if required by post) for the under-mentioned posts:—

1. PROFESSORS:—Mathematics-1 and Sociology-1 in the grade of Rs. 1100-50-1300-60-1600. **Qualifications:**—(i) A first or second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the subject concerned (ii) Either a research degree of a doctorate standard or published work of a high standard, and (iii) Ten years' experience of teaching at a University or a College, or ten years' post-doctoral research experience and considerable independent published research work and some experience of guiding research. *Desirable:* **Mathematics**—Specialisation in some topics of Operations Research with good knowledge/research work of credit in Theory of Probability, Topology and/or Functional Analysis. **Sociology**—Specialisation in Sociology of Modernisation and Social change and Sociological Theory. Outstanding contributions in the field through recognised publications.

2. PROFESSOR:—Accountancy and Business Statistics-1 in the grade of Rs. 1100-50-1300-60-1600. **Qualifications:**—(i) A first or Second class M.Com degree of an Indian University or an equivalent qualification of a foreign University in the subject concerned (ii) Either a research degree of a doctorate standard or published work of a high standard and (iii) Ten years experience of teaching at a University or a College or ten year's post-doctoral research experience and considerable independent published research work and some experience of guiding research. *Desirable:* Specialisation in the fields of Business Statistics/Cost Accounting/Management Accounting.

Note:— (i) A candidate holding a general M. Com. degree may be deemed to possess the M. Com. degree in the subject concerned provided he had offered at his M. Com. examination majority of papers of the subject prescribed for the M.Com. examination of this University in that subject.

(ii) Teachers holding M.Com. degree or M.A. (Economics) degree with B.Com. and in permanent employment (which term includes those working on probation) of the University on 28-9-1970 will be deemed to possess the M.Com. degree in the subject concerned.

3. READERS:—History-2, Philosophy-2, Public Administration-1, Library Science-1, Sociology-1 Chemistry-2 and Zoology-1 in the grade of Rs. 700-50-1250. **Qualifications:**—(i) A first or second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the subject concerned (ii) either a research degree of a doctorate standard or published work of a high standard, and (iii) five years' experience of teaching at a University or a College or five years' post-doctoral research experience and independent published research work and some experience of guiding research. *Desirable:* **History**—For the first post independent published research work in Ancient Indian History and Culture. Study of Ancient texts. Acquaintance with the Ancient History and Archaeology of Rajasthan. For the second, post-independent published research work in Modern History. Experience of teaching Western History to Post-graduate classes. Acquaintance with the Modern History of Rajasthan. **Philosophy**—For the first post, specialisation in (i) Indian Philosophy—thorough first-hand textual knowledge of the philosophical works in their historical perspective and also well-versed in contemporary western tradition or (ii) Modern Western Philosophy including European Philosophy, preferable having good knowledge of German or French, or (iii) Social and legal Philosophy or (iv) Modern logic and Philosophy of Science. For the second post specialisation in Modern Logic and should have, published work in the subject. **Public Administration**—Specialisation in Research Methodology Development Administration/Personnel Administration/Comparative Administration. Analysis with research papers published in recognised journals. **Sociology**—Specialisation in one or more of the following—(a) Social Psychology (b) Research Methodology (c) Political Sociology (d) Criminology (e) Industrial Sociology (f) Sociological Statistics in addition to specific contribution to theoretical

sociology through publications. **Zoology**—Specialisation in any one of the following branches—(i) Endocrinology (ii) Radiation Biology (iii) Cell Biology (iv) Entomology (v) Embryology (vi) Physiology (vii) Fish and Fisheries.

4. LECTURERS—Mathematics-1. Economics-1, Public Administration-2, Chemistry-3 and History-7 in the grade of Rs. 400-40-800-50-950. **Qualifications**—A first class Master's degree in the subject concerned or in allied discipline of an Indian or foreign University, or a second class Master's degree with at least three years experience of teaching degree classes or accredited research experience of at least three years (Preferably a research degree). **Desirable: Mathematics**—Good knowledge of Modern Algebra, Statistics and/or Hydrodynamics. **Economics**—A strong background in Modern Micro and Macro theory. Preference will be given to those applicants who have received formal training and specialised in Mathematical Economics and/or Econometrics. **Public Administration**—Specialisation in local administration/State Administration/Social Administration/Administrative Law/International Administration with published papers in recognised journals. **History**—(i) Experience of research, preferably a Ph. D. degree (ii) Ability to teach one of the following at the Post-graduate level (a) History of Indian Thought (b) Ancient Indian Art and Archaeology (c) Social History of Rajasthan with special reference to the Modern Period (d) Philosophy of History (e) History of Science (f) History of Ideas and Movements in the Ancient World (g) Ideas and movements in Contemporary History.

5. LECTURER in Business Administration—1 in the grade of Rs. 400-40-800-50-950. **Qualifications**—A first class M. Com. degree of an Indian or foreign University in the subject concerned, or a second class M. Com. degree in the subject concerned with at least three years' experience of teaching degree classes accredited research experience of at least three years (Preferably a research degree). **Desirable:** (i) Specialisation in Production Management/Financial Management/Human Area/Managerial Economics (ii) Experience of teaching M.B.A. classes or Diploma courses of an equivalent nature and acquaintance with the case Method of teaching, and (iii) Experience of teaching English and Hindi Shorthand.

Note:— (i) A candidate holding a general M. Com. Degree may be deemed to possess the M. Com. Degree in the subject concerned provided he had offered at his M. Com. examination majority of papers of the subject prescribed or the M. Com. Examination of this University in that subject. (ii) A candidate holding the M.B.A. degree will be deemed to possess the M. Com. degree in the subject concerned for the Department of Business Administration provided he had earlier obtained a Bachelor's/Master's degree in Commerce or Economics.

6. LECTURER in French—1 in the grade of Rs. 400-40-800-50-950. **Qualifications**—Candidates should possess at least either second class Master's degree in French or four years course from some specialised institute in the country out of which two years should have preferably been spent in a University/Institute of Languages in the country or a foreign country where the language is officially spoken. In the case of foreign teachers who are natives of the country, they should have acquired an equivalent of B.A. or B.Sc. degree.

7. RESEARCH ASSOCIATE in Economics—2 in the grade of Rs. 400-40-800-50-950. **Qualifications**—A first class master's degree in the subject concerned or in an allied discipline of an Indian or foreign University, or a second class Master's degree with at least three years experience of teaching degree classes or accredited research experience of at least three years (Preferably a research degree). **Desirable:** A strong background in Modern Micro & Macro Theory. Preference will be given to those applicants who have received formal training and specialised in Mathematical Economics/Econometrics/Mathematical Statistics and have some computational experience.

8. MICRO-ANALYST—1 in the Department of Chemistry in the grade of Rs. 400-40-800-50-950. **Qualifications**—Master's degree in Chemistry or Physics/M. Tech. (Electronics/B.Sc. D.R.E. with special training in instrumentation like CH. determination, I.R., UV spectra and capacity to locate faults and carry out minor repairs in chemical instruments.

Ability to teach in Hindi in respect of the teaching posts would be an additional qualification. Benefits of Provident Fund, D.A. and other allowances will be admissible as per University rules. It will be open to the University to consider the names of suitable candidates who may not have applied. Higher start possible in case of a really outstanding person. Canvassing in any form will be a disqualification. Candidates will be called for interview at their own expense. Those candidates who have applied for the posts in response to our previous advertisements during the year 1971 need not apply again, but they may send on plain paper a statement of Additional qualifications, if any, acquired since.

INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY

P.O. I.I.T. POWA, BOMBAY

ADVERTISEMENT NO. 705

Applications on plain paper are invited from the Citizens of India for the following posts on or before 21-2-1972 by the Registrar, Institute of Technology, Powai, Bombay-76. Copies of certificates and crossed Indian Postal Order for Rs. 3/- (75 paise for Scheduled Caste/Tribes/ for the posts at Serial Nos 1 to 5 and Re. 1/25 paise for Scheduled Caste/Tribes) for the post at Serial No. 6 payable to I.I.T. Bombay-76 should be enclosed. The post applied for may be indicated on the top of the application. Incomplete applications will not be considered. Some posts are reserved for candidates belonging to Scheduled Castes and Scheduled Tribes and Ex-Servicemen. Applicants must state:—

- (i) Name in full with address
- (ii) Qualifications such as examinations passed and date of passing
- (iii) Particulars of past and present employment with salary
- (iv) Date of birth with relevant certificates
- (v) Age: Preferably below 30 years, relaxable in deserving cases.

Scale of pay

- 1. Senior research Assistant: Rs 325-15-475-EB-20-575 + usual allowances
- 2. Junior research Assistant: Rs 210-10-290-15-320-EB-15-425 + usual allowances
- 3. Senior Technical Assistant: Rs 325-15-475-EB-20-575 + usual allowances
- 4. Junior Technical Assistant: Rs 210-10-290-15-320-EB-15-425 + usual allowances
- 5. Workshop Supervisor: Rs 250-10-290-15-380-EB-15-470 + usual allowances
- 6. Overseer (Electrical): Rs 180-10-290-EB-15-380 + usual allowances

QUALIFICATION AND EXPERIENCE

1. SENIOR RESEARCH ASSISTANT

(a) Department of Chemistry

A good Master's degree in Chemistry/Physics.

Research experience in Electrochemistry.

(b) Electrical Engineering Department

A good Bachelor's degree in Electrical Engg./Electronics with one year's experience in Electrical/Electronics. Laboratory/Workshop experience desirable.

2. JUNIOR RESEARCH ASSISTANT

Department of Chemistry

A good Master's degree in Chemistry/Physics. Aptitude for research in Electrochemistry/Chemistry and Physics of the Solid State/Electronic Instrumentation.

3. SENIOR TECHNICAL ASSISTANT

(a) Department of Chemistry

A good Master's degree in Chemistry/Physics. Specialisation in Solid State Chemistry or in Electronics with aptitude for instrumentation.

(b) Electrical Engineering Department

(i) A good Bachelor's degree in Electrical Engineering/Electronics with some experience in Electrical/Electronics. Laboratory/workshop experience desirable. (ii) Diploma in Electrical Engineering with minimum 5 years experience in the specified fields. (iii) Bachelor's Degree in Science with Physics Major with some experience.

(c) Department of Physics

Second Class Master's degree in Physics. Two years experience

in handling laboratory equipment or conducting laboratory classes. The selected candidates will be required to participate in undergraduate and postgraduate teaching programmes.

4. JUNIOR TECHNICAL ASSISTANT

(a) Chemical Engineering Department

Degree in Chemical Engineering or Master's Degree in Science with Chemistry/Physics or B.Sc. with Chemistry/Physics with some experience in Laboratory or Industry.

(b) Department of Chemistry

A good Master's degree in Chemistry. Research aptitude for Organic Chemistry preferred.

(c) Civil Engineering Department

Diploma in Civil Engineering/B.Sc. with Physics, Chemistry, Mathematics with three years experience in the field or Engineering Laboratories or design office.

(d) Electrical Engineering Department

Bachelor's degree in Science with Physics major or Diploma in Radio/Electrical Electronics Engineering. One year's experience in Electrical/Electronic Laboratory/Workshop desirable.

(e) Metallurgical Engineering Department

Bachelor's Degree with Physics, Chemistry as principal subjects preferably with some experience in a Metallurgical Laboratory.

(f) Department of Physics (2 categories)

(1) Diploma in Electronics and Radio Engineering or equivalent. Desirable — (a) Either three years experience in one of the following areas: (i) H.F. and U.H.F. (ii) Radar (iii) Pulse Circuits or (b) a B.Sc. degree.

(2) Second Class Master's degree in Physics. Experience in handling laboratory equipment

and conducting laboratory classes desirable.

(f) Central Research Laboratory

Diploma in Cinematography or B.Sc. with Physics and Chemistry or both. Minimum four years experience either as an Assistant Cameraman in a reputed studio or as a Photographer in a well-known Institution and thorough knowledge of General Photography, Photomicrography, Microfilming, Slide Preparation, Photostat operation, etc.

(h) Computer Centre

Diploma in Radio Engineering or higher qualifications in Electrical or Electronic Engineering. At last two years experience with electronic equipment and testing. Preference will be given to those with a knowledge of computer technology and experience in computer operation and maintenance.

5. WORKSHOP SUPERVISOR (Printing Press)

Diploma in Printing Technology with 3 years experience in Printing Press. Professional experience in large printing house with composing, printing, binding, offset printing, silk screen printing and hand and machine embossing.

6. OVERSEER (Electrical)

A Diploma in Electrical Engineering awarded by State Department of Technical Education or equivalent. Some experience in Erection and Maintenance of electrical Installations underground and Overhead distribution systems, Transformers, H.T. and L.T. switchgear and similar repairs. Ability to control Labour essential.

गोरखपुर विश्वविद्यालय, गोरखपुर

विज्ञापन संख्या-5

निम्नलिखित रिक्त स्थानों की पूर्ति के लिए आवेदन-पत्र आमंत्रित किये जाते हैं। आवेदन विश्वविद्यालय द्वारा निर्धारित प्रारूप-पत्र पर किया जाना चाहिए। आवेदन के प्रारूप-पत्र की आठ प्रतियां कुल-सचिव के कार्यालय से 5 रु० रीडर पद के लिए और 2 रु० प्रवक्ता पद के लिए नकद या कुल-सचिव के नाम पोस्टल आर्डर द्वारा भेजकर प्राप्त की जा सकती हैं। आवेदन-कर्ता यदि किसी संस्था में नियुक्त है तो आवेदन-पत्र नियोक्ता द्वारा अप्रसारित होना चाहिए। आवेदन-पत्र कुल-सचिव के कार्यालय में 4 मार्च, 1972 तक अवश्य पहुंच जाना चाहिए।

रीडर :

2—(स्थाई) रु० 700-50-1250
के वेतनक्रम में;

अंग्रेजी-1, मनोविज्ञान-1

अर्हतायें :

- (अ) स्नातकोत्तर उपाधि प्रथम श्रेणी में या
- (ब) संबंधित विषय में डाक्टर ऑफ फिलास्फी उपाधि के साथ उच्च द्वितीय श्रेणी।
- (स) कम से कम 5 वर्ष का स्नातकोत्तर कक्षाओं का शैक्षणिक अनुभव और
- (द) शोध-कार्य में निर्देशन की दक्षता।

प्रवक्ता :

सांख्यिकी विभाग-1 (अस्थाई) तथा
1 अंश कालिक प्रवक्ता वेतन केवल 300
रु० मात्र प्रतिमाह

प्राचीन इतिहास संस्कृति एवं पुरातत्व
विभाग-3 (1 स्थाई तथा 2 अस्थाई)

हिन्दी-1 (स्थाई)

अर्थशास्त्र विभाग-1 (स्थाई)

फ्रेंच-1 (अस्थाई)

तामिल-1 (अस्थाई)

तेलगू-1 (अस्थाई)

भौतिकी-3 (स्थाई)

वाणिज्य विभाग-1 (अस्थाई)

वेतनक्रम 400-40-800-50-950

अर्हतायें

- (अ) स्नातकोत्तर उपाधि प्रथम श्रेणी में या
- (ब) संबंधित विषय में डाक्टर ऑफ फिलास्फी के साथ उच्च द्वितीय श्रेणी।

नोट :

- (अ) तामिल या तेलगू में अभ्यर्थी को एम० ए० अथवा सर्वोच्च डिप्लोमा तथा हिन्दी में एम० ए० हो।
- (ब) फ्रेंच के प्रवक्ता के लिए अभ्यर्थी की मातृ भाषा फ्रेंच होना अनिवार्य है तथा साथ ही उसको पर्याप्त शैक्षणिक अनुभव एवं पर्याप्त शैक्षणिक योग्यता होनी चाहिए।

पर्याप्त अध्यापन एवं शोधकार्य में अनुभव रखने वाले अभ्यर्थी को बरीयता दी जायेगी। उपर्युक्त दशाओं में चयन समिति द्वारा पर्याप्त अध्यापन तथा उच्च स्तर के शोधकार्य के आधार पर उपरिलिखित अर्हताओं की मर्यादा शिथिल की जा सकती है।

अभ्यर्थी को साक्षात्कार के लिए बुलाये जाने पर स्वयं मार्ग-व्यय वहन करना पड़ेगा। उपर्युक्त पदों के निमित्त विशेष योग्यता संपन्न अभ्यर्थी को चयन समिति अग्रिम वार्षिक बढोतरी देकर प्रारम्भिक वेतन दे सकती है। विज्ञापित पद पर नियुक्त करने या न करने के लिए विश्व-विद्यालय प्राधिकृत है। अभ्यर्थी द्वारा या अभ्यर्थी की ओर से किसी भी प्रकार की सिफारिश का किया जाना उसकी अयोग्यता का सूचक माना जायेगा।

हस्ताक्षर

भोलेन्द्रसिंह

कुल-सचिव

Banaras Hindu University

Advt. 31/1971-72

APPLICATIONS are invited for the undermentioned posts. The benefit of Provident Fund/Pension, Dearness Allowance, House Rent Allowance and City Compensatory Allowance are admissible according to the University-Rules. The retirement age of the University employees is 60 years. The appointment will be made on two years probation on all permanent posts. Higher starting salary within the grade is admissible to specially qualified and experienced candidates.

The prescribed form for applications will be sent free of cost by the Dy Registrar (Academic), (Selection Committee Section), Banaras Hindu University, Varanasi-5, alongwith the leaflet of information on receipt of a self-addressed envelope (9" x 4"). Applications for each post be sent separately with application fee of Rs. 7.50 remitted by Bank Draft/Crossed I.P.O. in favour of the Registrar, Banaras Hindu University. M.O. or Cheque will not be accepted. Candidates called for interview will be paid Second class Railway fare both ways by the shortest route. No other expenses will be paid. The last date for receipt of applications is 6th MARCH, 1972

SCIENCE AND HUMANITIES

Professors—Grade: Rs. 1100-50-1300-60-1600

1. Professor of English
2. Professor of Art and Architecture
3. Professor of Journalism
4. Professor of Sculpture

Essential Qualifications

(For Post No. 1):

- (1) A First or Second class Master's Degree in the subject or an equivalent qualification;
- (2) A research Degree of a Doctorate standard and/or published work of a high standard in reputed journals.
- (3) About ten years experience of Post-doctoral research and/or of teaching at a University or College.
- (4) Ability to guide research of a high standard.

(FOR POST NO. 2)

- (1) A First or Second class Master's degree in History of Art (Art and Architecture) or Ancient Indian History, Culture and Archaeology with specialization in Fine Art or an equivalent qualification;
- (2) A research degree of a Doctorate standard and/or published work of a high standard in reputed journals;
- (3) About 10 years experience of Post-doctoral research and/or of teaching at a University or College;
- (4) Experience of guiding research of

a high standard.

(For Post No. 3)

- (1) A First or Second class Master's degree in English or any of the Indian Languages with Degree/Diploma/Professional training in Journalism OR Master's degree in Journalism.
- (2) Research Degree in Journalism or outstanding research publications in Journalism.
- (3) About 10 years experience of teaching and/or working in Newspaper in a senior position.

(For Post No. 4)

- (1) A Degree or an equivalent qualification in Sculpture preferably in First class from a recognised Institution.
- (2) Specialization in Traditional or Contemporary Sculpture.
- (3) About ten years professional experience (teaching) in a responsible position in a recognised Institution.

Desirable Qualifications

(For Post No. 2)

- (1) Sound knowledge of Indian Art and Architecture and Sanskrit;
- (2) Contribution in Cultural History and knowledge of Archaeology.

(For Post No. 3)

- (1) Experience of practical Journalism in some noted Newspaper Organisation.
- (2) Experience in organising the study of Journalism at a University level.

Note: Candidates who have held senior position in Newspapers or News Agencies although they may not possess Academic and Professional qualifications etc, will also be eligible to apply for Post No. 3 (Professor of Journalism)

Readers: Grade: Rs. 700-70-1250

- (5) Readers in Physics
- (6) Readers in Botany
- (7) Reader in Sanskrit
- (8) Reader in English
- (9) Reader in Urdu
- (10) Readers in Education (M. Ed. with Master's degree in any subject) (Four)
- (11) Reader in Vyakaran
- (12) Reader in Marathi.

Essential Qualifications

(For Post Nos 5 to 10)

- (1) A First or Second class Master's Degree in the subject or an equivalent qualification;
- (2) A Doctorate degree and/or published work of a high merit in reputed journalism
- (3) About 5 years experience of Post doctoral research and/or of teaching at a University or College
- (4) Experience of guiding research

(For Post No. 11)

- (1) A First Second class Shastracharya or Acharya Degree in the subject or an equivalent qualification;
- (2) Doctorate Degree and/or pub-

lished work of high merit

(3) About five years teaching experience of Shastracharya classes in University or College

(4) Knowledge of Navya Nyaya.

(For Post No. 12)

- (1) A First or Second class Master's Degree in the subject or an equivalent qualification
- (2) A Doctorate degree and/or published work of a high merit in reputed journals;
- (3) About 5 years experience of Post-doctoral Research and/or teaching at a University or College.

Desirable Qualification

(For Post No. 6)

- (1) Specialization in Microbiology/Cytogenetics or in any branch of Botany.

(For Post No. 10)

- (1) Ability to teach in Hindi
- (2) Research publications
- (3) Specialization in Philosophy of Education or Educational Sociology or Educational Administration and Planning.

- (1) Experience of guiding research
- (2) Publication of standard books of Vyakaran and Nyaya.

(For Post No. 12)

- (1) Experience of guiding research.

Note

- (i) The candidates who have responded to our earlier advertisement for Post No. 10 (Readers in Education) will not be required to apply again
- (ii) The University may appoint a Lecturer against the post of Reader in Marathi, if so considered.

Lecturers: Grade: Rs. 400-40-800-50-950

13. Lecturers in Marathi (Two)
14. Lecturer in Pali
15. Lecturer in Agronomy (M.Sc. (Ag) Degree in Agronomy)
16. Lecturer in Geography (For ladies only — Temporary leave vacancy for about two years)
17. Lecturer in History
18. Lecturer in Education
19. Lecturers in Business Management
20. Lecturer in Jain Philosophy and Logic
21. Research Assistants in Law (for two years only) — Grade: Rs 300-25-325.

Essential Qualification

(For Post Nos. 13 to 16)

- (1) A First or Second class Master's degree in the subject or an equivalent qualification;

(For Post No. 17)

- (1) A First or Second class Master's degree in History or an equivalent quali-

Contd. next page

fication with specialization in Modern Indian History.

(For Post No. 18)

1) A first or Second class M.Ed. degree with Master's degree in any subject.

(For Post No. 19)

1. A First or Second class Master's Degree in Management, Commerce or Economics OR A First or Second class Master's Degree in Psychology, Mathematics or Statistics with special knowledge and/or experience of teaching Management, Commerce or Economic subjects.

(For Post No. 20)

1. A First or Second class Shastri-acharya or Acharya Degree in the subject or an equivalent qualification;

2. Teaching experience of Madhyama, Shastri and Acharya classes in a recognised Institution.

(For Post No. 21)

1. First class Bachelor's degree in Law or a Master's degree in Law.

Desirable Qualifications :

(For Post Nos. 13 to 18)

1. Attitude for research as indicated by published work (for all posts);

2. Doctorate degree in the subject and/or some teaching experience (For Post Nos. 13 to 17), and experience of teaching at a University or College (for Post No. 18 only);

3. Ability to teach in Hindi (for Post No. 15, 16 and 18 only);

4. Capacity to handle Mahayana Buddhist Texts (for Post No. 14 only)

5. Knowledge of Modern Political Thought (for Post No. 17 only).

(For Post No. 19)

1. A Doctorate degree in the subject or research experience;

2. Teaching experience or experience as a business executive;

3. Specialization in Marketing Management or Personnel Management or other functional area or Accounting or Principles and practices of Management.

(For Post No. 20)

1. Knowledge of Nyaya.

(For Post No. 21)

1. A Master's degree in Commerce or Economics or Sociology or Psychology or Political Science or History.

Note: Those who have applied in response to our advertisement No. 2/71-72 for the post of Lecturer in Jain Budh Darshan need not apply again for Post No. 20 (Lecturer in Jain Philosophy and Logic). There is simply a change in designation of the post and the applications received will be considered together.

Institute of Technology

22. Professor or Applied Mathematics—Grade : Rs. 1100-50-

1300-60-1600

23. Reader in Pharmaceutics—Grade: Rs. 700-50-1250

24. Lecturers in Engineering Mathematics (Two)—Grade Rs. 400-40-800-50-950.

25. Lecturers in Pharmaceutical (Two—Temporary leave vacancies)—Chemistry Grade. Rs. 400-40-800-50-950.

Essential Qualification :

(For Post No. 22)

1) A First or Second class Master's degree in the subject or an equivalent qualification;

2) A research Degree of a Doctorate and/or published work of a high standard in reputed journals.

3) About ten years experience of Post-doctoral research and/or of teaching at a University or College;

4) Ability to guide research of a high standard;

5) Specialization in Applied Mathematics with particular reference to Engineering Applications/Theory of Elasticity/Non-linear Mechanics/Engineering Analysis/any other branch of Applied Mathematics or Statistics having Engineering Applications.

(For Post No. 23)

1) A First or Second class Master's degree in any branch of Pharmaceutical Science;

2) A Doctorate degree and/or published work of a high merit in reputed journals;

3) About 5 years experience in Teaching/Research/Industry.

(For Post No. 24)

1) A First or Second class Master's degree in Mathematics/Applied Mathematics/Engineering Mathematics;

2) Specialization in Operational Research or Information Theory of Linear and Dynamic Programming or Engineering Analysis or Elasticity or Numerical Analysis.

(For Post No. 25)

1) A First or Second class Master's degree in Pharmaceutics or Pharmacy or any branch of Pharmaceutical Sciences.

Desirable Qualifications

(For Post No. 22)

(1) Knowledge of foreign language;

(2) Corporate membership/fellowship of Professional organisations and/or learned Societies.

(For Post No. 23)

(1) Specialization in Pharmaceutics and Microbiology;

(2) Research publications in standard journals;

(3) Membership of Professional bodies/learned societies;

(4) Special knowledge of Pharmaceutical Plant Equipment and Process Design.

(For Post No. 24)

(1) A Doctorate degree in the subject;

(2) Experience of Teaching/Research/Industry.

(For Post No. 25)

(1) Specialization in Physical and Biological Pharmaceutics/Pharmaceutical Chemistry;

(2) Practical experience in development of Pharmaceutical formulations and quality control of Pharmaceutical Products OR Teaching/Research experience in Pharmaceutics.

INSTITUTE OF MEDICAL SCIENCES

26. Reader in Epidemiology. (Deptt. of P.S.M.)—Grade: Rs. 700-50-1250, Plus N.P.A. @ Rs. 400/- p.m. admissible to Medical Graduate candidates.

Essential Qualifications :

(For Post No. 26)

(1) M.D. (PSM) or D.P.H. or M.R.C.P. with Social Medicine or M.D. Medicine with D.P.H.;

(2) About 4 years teaching and research experience of Epidemiology in a (Public Health Institute or well organised P.S.M. Department of a Medical College.

Desirable Qualifications :

(For Post No. 26)

(1) Diploma in Public Health or a degree in Clinical discipline;

(2) Experience of Clinical Epidemiological work and publications in that subject.

Lecturers—Grade: Rs. 400-40-800-50-950

27. Lecturer in Dravyaguna (N.P.A. @ Rs. 300/- p.m.)

28. Lecturer in Forensic Medicine (N.P.A. @ Rs. 300/- p.m.)

29. Lecturer in E.N.T. (N.P.A. @ Rs. 300/- p.m.)

30. Lecturers in Physiology (N.P.A. @ Rs. 300/- p.m. admissible only to Medical Graduate candidates)

31. Lecturer in Pharmacy (Without N.P.A.)

32. Lecturer in Sociology (Without N.P.A.)

Essential Qualifications :

(For Post No. 27)

(1) A.M.S./A.B.M.S. or an equivalent basic qualification in Indian Medicine organised by the University;

(2) Post-graduate degree or training considered equivalent to in the subject or Dravyaguna;

(3) About two years teaching and/or research experience in a recognised Institute.

(For Post No. 28)

(1) M.B.B.S. degree or an equivalent qualification recognised by the Medical Council of India;

(2) M.D. (Forensic Medicine), M.D. (Path.), M.D. (Med.) with Diploma in Forensic Medicine, M.R.C.P. with Forensic Medicine as a special subject. Speciality Board of Path. (U.S.A.) or

an equivalent qualification:

(3) About two years teaching experience in the Department of Forensic Medicine or a recognised Medical College/Medical Teaching Institution.

(For Post No. 29)

(1) M.B.B.S. or equivalent qualification recognised by the Medical Council of India;

(2) M.S. (F.N.T.) or an equivalent qualification recognised by Medical Council of India;

(3) About 2 years teaching experience as Registrar or an equivalent post in Otolaryngology or Allied subjects in Medical College or Teaching Institution.

(For Post No. 30)

(1) M.B.B.S./M.Sc. Physiology;

(2) M.D./Ph.D. in the subject;

(3) About two years teaching experience of Under-graduate and Post-graduate classes;

(4) Knowledge of Histo and Cytochemical techniques.

(For Post No. 31)

(1) A First or high Second class M. Pharm. Degree with Pharmaceutics as special subject OR M. Pharm. Degree with Pharmacology as a special subject with Industrial experience for two years.

(For Post No. 32)

(1) A First or Second class Master's degree in Sociology or Applied Sociology or Social work or equivalent qualification;

(2) About two years experience of teaching and/or research and/or service programmes in Public Health organisations preferably Deptt. of P.S.M. or other allied training organisations.

Desirable Qualifications

(For Post No. 27)

(1) Original contribution and research publications in the subject;

(2) Additional qualification in Science or Modern Medicine.

(For Post Nos. 28 and 29)

(1) Research experience and publications in the subject.

(For Post No. 30)

(1) Publications in the field of Histo and Cytochemistry.

(For Post No. 31)

(1) Teaching or Industrial experience for Two years.

(2) Experience of research in Biochemical studies.

(For Post No. 32)

(1) Ph.D. preferably in a topic related to Medical Education or Public Health Programmes.

(2) Research Publications.

UNIVERSITY OF SAUGAR

Advertisement No. R. 172.

Applications on a prescribed form are invited so as to reach the Registrar, University of Saugar, Saugar before March the 3rd, 1972 for the post of one assis-

tant professor—likely to become permanent — for teaching *Pharmaceutical Chemistry* in the Department of pharmaceutical Sciences. Prescribed application form may be obtained on requisition from this office by sending a self-addressed envelope and a postal order of Rs. 5-00 as application fee.

2. Candidates already in service should send their applications through the proper channel. An advance copy, however, may be sent. The application should carry a testimonial with regard to the work and conduct of the candidate from the Head of the Institution he is serving or has last served.

3. Candidates selected for an interview will have to come to Saugar at their own expense and bring with them their original research papers, degree etc.

4. The appointment to this post will be made on usual conditions of probation under rules on the salary scale of Rs. 400-40-800-50-950 with D.A. as may be admissible. The Provident Fund benefit will be admissible from the date the post is made permanent on or about the 20th November, 1973 when the appointment is made on a substantive basis.

5. Service during the temporary appointment, including the probationary period, may be terminated without notice and without assigning any reason.

6. The age of retirement is 60 years.

7. A higher starting salary in the prescribed scale may be given to a specially qualified and experienced candidate.

8. **Qualifications:**

(i) A first class Master's or an equivalent degree in the subject recognised for the purpose by the University;

OR

A Second class Master's Degree or an equivalent degree in the subject recognised by the University with at least 2 years teaching experience of Post-graduate classes preferably at a University or with recognised research work.

(ii) He must be able to teach in Hindi.

(S.J. NAIDU)

Registrar

**BANARAS HINDU
UNIVERSITY**

(Advertisement No. 30/1971-72)

APPLICATIONS are invited for the undermentioned posts. The benefit of Provident Fund/Pension, Dearness Allowance, House Rent Allowance and City Compensatory Allowance are admissible according to the University rules. The retirement age of the University employees is 60 years. The appointment will be made on probation for two years. Higher starting salary within the grade

is admissible to specially qualified and experienced candidates.

The prescribed form for application will be sent free of cost by the Dy. Registrar (Admn.), Banaras Hindu University, Varanasi-5 along with the leaflet of information on receipt of a self-addressed envelope (9" x 4"). Application for each post be sent separately with application fee of Rs. 7.50 remitted by Bank Draft/Crossed I.P.C. in favour of the Registrar, Banaras Hindu University. M.O. or Cheques will not be accepted. Candidates called for interview will be paid second class railway fare both ways by the shortest route. No other expenses will be paid. The last date for the receipt of applications is 25th February, 1972.

1. LIBRARIAN (B.H.U. Library)

Grade: Rs. 1100-50-1300-60-1600

Qualifications Essential: (1) A First or Second class B.A./B.Sc./B.Com. degree with First or Second class M. Lib. Sc. degree (two years course) OR A First or Second class M.A./M.Sc. degree with first or second class B. Lib. Sc. or one year Diploma Course in Library Science. (2) About 10 years experience as Librarian or of working in a responsible professional capacity in a Library of repute. **Desirable:**

(1) Recognised research experience in the field and working of special projects. (2) Administrative experience in responsible position and familiarity with modern techniques of managing a big Library. (3) Working knowledge of one or more foreign languages

(2) **Anthropological Assistant** (Deptt. of Ancient Indian History, Culture and Archaeology).

Grade: Rs. 300-25-25-600

Qualifications Essential: (1) First or high Second class M.A./M.Sc. degree in Anthropology. (2) Experience of field work **Desirable:** Specialization in Physical Anthropology and/or Pre-historic Archaeology.

Note: The post is for the duration of the Fourth Five Year Plan but is likely to continue thereafter.

The United States Educational Foundation In India Travel Grants 1972-73

The United States Educational Foundation in India will award a number of Fulbright travel grants for postgraduate study in all fields except engineering and medical internship, in the United States.

Application blanks will be sent only to those candidates who state their Academic Qualifications with Class, Age, Experience and Field of study *when writing*. Such requests must be accompanied by a copy of the letter of admission from an American University and Documented Guarantee of Financial support for one academic year. Please enclose a self-addressed, stamped envelop of the size 12"x10".

Candidates must: (1) have a bachelor's and a post-graduate degree or diploma; those entitled to a Master's degree by passage of time must have received the Master's degree certificate at the time of application; (2) have a year's paid experience in the special field; (3) Be preferably under 40 years of age at the time of application; (4) Be an Indian citizen, and be present in India at the time of application and interview; (5) Have good command of English; (6) Be in good health; (7) Not have studied in the United States at the college level within the last five years; and (8) have obtained formal admission to an American university for September, 1972.

If you have a favourable letter from an American university, but the official document has not arrived April 1st, communicate with the regional office.

Candidates should produce documentary evidence guaranteeing financial support sufficient for one academic year for study at the institution where the candidate has received admission OR Rs. 20,000/-, whichever is higher. This may be in the form of (a) scholarship/assistantship/fellowship from the American university/college concerned or (b) a bank statement or a certificate signed by a first-class magistrate, if the candidate uses his own funds. (In view of the Reserve Bank restrictions, it is the sole responsibility of the candidate to secure his own dollar exchange permit if the financial guarantee is in Indian currency). Ordinarily, travel grants will be awarded only to those who have financial support in dollar currency.

Candidate should be prepared to give an undertaking that he will return to India on completion of his academic program. Candidates should produce a certificate from the employers that leave will be granted for the duration of study. Candidates who have resigned or intend to resign their jobs should not apply for these grants.

Post-doctoral candidates who receive more than \$10,000 as remuneration for one year will not be eligible to apply in this competition.

All applications must reach the regional office of USEFI on or before 13 April, 1972. Those in government service must ask for a duplicate form (no marksheets needed in official channel copy) which must reach the Foundation office through proper channel before 7 March, 1972.

Regional Selection Committees will call some candidates for personal interview in the last week of April. Final recommendation will be by the National Selection Committee in Delhi and final selection by the Board of Foreign Scholarships in Washington.

Recipients of Fulbright travel grants are required to go to the United States on the Exchange Visitor visa—G-1 program number. The Foundation will supply the selected candidates DSP-656 Form with which this visa can be obtained.

No cash grant is given. The travel of the selected candidates will be arranged by the Foundation. The grant does not cover travel of dependents.

Application forms can be secured from (and should be returned to) one of the following regional offices:

1. For North India : USEFI, 12 Hailey Road, New Delhi-1
2. For East India : USEFI, 6-C Middleton Street, Calcutta-16
3. For South India : USEFI, American Consulate Building, Mount Road, Madras-6
4. For West India : USEFI, "Sundeeep", 5th Floor, 4 New Marine Lines, Bombay-20

IUB PUBLICATIONS

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UNIVERSITY



NEWS



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Rabindranath Tagore

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Opinions expressed by contribut-
ors are their own, and do not
necessarily reflect the policies
of the Inter-University Board.

Editor : W. D. Miranshah

WILL THERE BE A RE-ORDERING OF EDUCATIONAL PRIORITIES IN THE FIFTH PLAN?

Work on the Fifth Five-Year Plan is due to begin shortly. Along with other sectors of activity, education, too, will come under scrutiny. The Planning Commission has already appointed Working Groups for various sectors of education; and it seems reasonable to think that, within the next six months to a year, some kind of an outline for the next five-year plan would have been drawn up.

The question which the country has to consider today is if there has to be any re-ordering of priorities in the field of education or the old priorities should continue. In theory, no one will oppose the notion that the priorities must be changed. In practice, however, there is likely to be prolonged and unyielding resistance to any kind of change. Resistance to change comes from the fact that vested interests grow up around any institution or arrangement. Whenever a change is sought to be introduced, those affected set up a chorus of protests.

Of the problems that the planners have to consider, the following are of far reaching importance. Shall we continue to spend on general education more or less in the same proportion as we are spending today? Or, shall we reduce our expenditure there and invest the funds on some other sector of education? If the former is to be done, what happens to those who crowd into colleges today? This is not an easy question to answer and is intimately related to the problems of employment.

Is the present strategy of education the right one to adopt? Or, are we making mistakes here too? For instance, are we producing more engineers or doctors than there is demand for; or with the changes in economy that are expected, will they be absorbed?

What about our relative neglect of primary and secondary education and also of adult education? This is a matter which has been commented upon by several people and it is perfectly in order to raise it here.

Or, to put it differently: do the resources of the country, financial and human, permit of the present rate of expansion, or do we have to go slower in certain sectors and faster in certain others?

There are a number of thorny issues to be grappled with. Answers are of course not easy to find; but to have asked the right questions would be to move at least some way towards finding the right answers.

YOUR OWN PAGE

A Bolt from the blue!

Dear Editor:

Almost regularly I see your Journal, the University News in the Sapru House Library.

I had so far considered it to be a record academic, educational activities. There was no place for personal stories and more news than photos. But the February issue of the University News is a bolt from the blue. It is mystery or myth I do not know, at least for me the article on third page is beyond me. Apart from a number of mistakes, printing and grammatical, it is full of personal whims and romantic description not found hitherto.

I shall suggest you give more news and less photos of the VC who are most discredited (Agra University's for example), less personal anecdotes and only news like the way provided in the earlier issues. I hope you will not mind these suggestions.

S.K. Chopra

School of International Studies
Sapru House, New Delhi-1.

● Journalism is too dynamic to conform to static principles. So far *University News* was only a record of academic activities. Henceforward, it is proposed to make it more personal, more vivid and more of 'a bolt from the blue.'

Any other objection?

Do you want to say something?

This is your own column; use it to advantage. If you wish to say something new on education, or want to comment on articles already reviewed in previous issues of the University News, feel entirely free to do so. Unless you come forward and tell us what you think of the magazine, it will not succeed in becoming truly representative of the university and its mission in India.—Editor

Most informative

I acknowledge with thanks the receipt of the February issue of *University News* last week. I read it thoroughly and found it most informative and interesting. Your small magazine is doing a lot for higher education in India. The coverage of Vice-Chancellors' Annual Conference at Agra was worth praising. I want to know whether you are publishing more books on university education, in India as well as in foreign countries. Recently, I bought one copy of "Continuing Education in Universities" published by you. The above book was also very nice and interesting. Also please let me know whether Kothari Commission's Report on Indian

Education is available with you or not.

S. K. Chopra
E. H. 208, Nehru Gardens Road
Jullundur-1 (Punjab)

● Please write to :
The Ministry of
Education,
Shastri Bhavan,
New Delhi-1

V.C.'s made All Kinds of Unworkable Proposals!

I have seen your Feb. issue. I must particularly refer to the Editor's report of the proceedings at the annual conference of the vice-chancellors. It is all very well to say that the vice-chancellors enjoyed themselves hugely and talked of all kinds of unworkable proposals. Even if we swallow the whole thing like the famous fly in the whisky glass of the queer Irishman, we are still stuck with the basic question: what has the Inter-University Board done all these years?

H-183, Naresh K. Narula,
Ashok Vihar,
20th Feb. 1972.

● Not prepared to behave like that "queer Irishman"! Well then, which were the ones "unworkable"? And clarify your question about the IUB, too.—Editor

Naughty Quotes !

Professor V.V. John said: "Freedom is not something that happens to a person but is something that enables a person to make things happen."

Like hitting the V.C. with a paperweight?

Professor V.K. Gokak, former V.C. of Bangalore University recently said: "The knowledge content of our university courses is frequently so antiquated..."

That it cannot keep pace with the knowledge content of outside courses!

Mr. Chand Joshi, in *Round Table*: "The universities and the middle class youth crowding it are actually the cradles of the future power base of our own society."

But what happens in case of power failure?

The January issue of *The Netherlands*: "Since 1945, the old symbols have been overtaken by unique developments, and some of these have been so rapid and so revolutionary that even the Dutch do not yet have a clear idea of the New Netherlands."

A matter worth referring to the *Astrological Magazine of India*!

Deccan Herald editorial comment: "According to the Fourth Plan report, by 1968-69 only 62 percent of the children in the age group of 6-14 were going to school."

The other 38 percent were busy with the local politics of *Gili-Danda*!

Deccan Chronicle says: "The problems of the Osmania University, as it should be at once conceded, are complex and unique."

As if those elsewhere were any less unique!

News: "One of the demands of striking students of a university was the setting up of a legal degree course."

So that they could prove that it was quite legal!

National Herald editorial: "The Soviet Union has made the interesting suggestion that advanced countries which benefit by the brain-drain should pay the developing countries which supply the brain."

Much less paying, they don't even lend their ear!

An Association Dean is of the opinion that "while framing the time table of an institution, some period should be reserved for student strikes." Care should be taken to see that it is immediately before the exams!

K.K. Khullar, Writer: "It appears even God has been partial to the Punjabis by providing them with a climate so extreme and a land so rich that wheat and wit grow in abundance."

No wonder, they blow hot and cold in the same breath!

Hindu's editorial comment: "In developed nations, the problem is not one of getting the book to the reader but of getting the reader to the book."

In India, we have to look for both with a telescope!

A letter in *Time*: "The necktie is not only the most useful item of apparel, it is also the most uncomfortable—a constant noose around a man's neck."

Like greatness!

Author and Scientist Arthur C. Clark is of the opinion that "a country with the size and diversity of people like India cannot maintain its unity and integrity for long without a communication satellite."

It will speak a dialect no Indian will understand, bringing about the unity of true ignorance!

***Humorous anecdotes are wanted.
Send in as many as you want, and
send them quick!***

ANDHRA

Youth Festival

The University celebrated the youth festival from 11th February for a week. Under this programme there were competitions in Drama, Music, Dancing and other fine arts. Student representatives from several colleges affiliated to the University participated in the festival.

Student Exchange for National Integration

Under the National Integration Samithi Students' Exchange Programme, Students from Hinjilicut, Ganjam, have visited Visakhapatnam National Integration Samithi of Andhra University played host to the team during their stay here on 1st, 2nd and 3rd February 1972.

Hindi Writers' Workshop

A workshop for young Hindi writers of non-Hindi speaking areas was inaugurated on 2nd February, 1972, by Shri L. Bullaya, Vice-Chancellor, Andhra University. The workshop was organized jointly by the Hindi Department (Andhra University) and the Central Hindi Directorate (Ministry of Education and Social Welfare). Participants came from Andhra, Assam, Kashmir, Mysore, Orissa, Punjab, Tamilnadu & West Bengal.

Shri L. Bullaya, in his inaugural address, emphasised the need for honest implementation of the three-language formula by all to bring about emotional integration. He said that young Hindi writers, especially in non-Hindi states, had a crucial role in it. Referring to translation, he said that writers should not fight shy of enriching the language with words from English, whenever necessary.

Part-Time Employment for Students

At the initiative of the University, Employment Information and Guidance Bureau, the University has made provision for part-time employment of 11 Students in the University library.

GURU NANAK

Examination Reform Initiated

The Guru Nanak University Syndicate has decided to bring about such changes in examination conducting as to make the procedure more effective. Among the recommendations made, may be listed some of these: (i) The principal of a college will not be the sole incharge for university examinations; in his absence, he will be replaced by a senior staff member nominated by him; (ii) The examination superintendent will be appointed, from outside, by the university; in case, the principal feels that the superintendent concerned is failing in his duties, he will have the power to replace him, in consultation with the Registrar, by forwarding to him the findings of an inquiry held into the matter. (iii) The invigilation staff will be appointed both from the college concerned and from outside on a fifty fifty ratio. Preference will be for the outside staff to be from the same college to which the Superintendent belongs. And in case the number of examinees at a centre exceed 150, there will be a Deputy Superintendent to counter-balance outside influence. In case, there are a number of centres in a college close to one another, regardless of the number of candidates appearing, only one Deputy Superintendent shall be appointed.

P. A. U.

First Mobile Workshop commissioned

Dr. M.S. Randhawa, Vice-Chancellor of the Punjab Agricultural University commissioned the first mobile workshop at a function held on 18 February, at Dakha, 15 kilometres from here.

Dr Randhawa said that mechanization and adoption of new farm techniques were responsible for the green revolution in Punjab. He praised farmers of the State for their untiring efforts to increase farm production.

Explaining the need for mobile workshops, he remarked that precious farm machinery was mishandled by unskilled mechanics. This fully equipped mobile workshop would be run by the staff and students of the College of Agricultural Engineering and would provide on-the-spot service facilities to tractor owners.

Punjab has more than 30,000 tractors and 1,84,000 tubewells. To train farmers in the operation and maintenance of tractors and tubewells, various short term courses are regularly held at the University Campus. The mobile workshop, equipped with necessary tools, a lathe, grinders, drilling machines, a welding set, an electric generator and a nozzle tester needed for the repair of farm machinery, would be helpful in training the farmer and the rural artisan at their own places of work.

NEW Frc

Summer Institute in Plant Breeding

A summer institute in plant breeding will be organized June-July at the Punjab Agricultural University, Ludhiana, in collaboration with the Indian Council of Agricultural Research, New Delhi.

Dr. K. S. Gill, Professor & Head of the Department of Plant Breeding, PAU, will be the Director of the Institute.

In this programme, the participants will be trained both in fundamental and applied aspects of plant breeding.

A large number of plant breeders from various parts of the country are expected to take part.

S. V. U.

Convocation Address by the pro-Vice Chancellor

Presided over by the Chancellor, Mr Khandubai Desai, the

15th annual convocation address was delivered by the Pro-Chancellor of the University, Mr. P.V. Narasimha Rao, who is also the Chief Minister of Andhra Pradesh.

Mr. Rao visualised the task of the university of tomorrow as one of re-orienting itself "to bridge the wide gulf between precept and practice." He argued that the university of the future would be expected to strengthen the socialistic society, and "to conform to the dumb voice of the teeming millions in the fermentation of its own thought processes." He hoped that "the innate idealism of the youth will ultimately assert itself and that the university will be a community whose objectives conform to the accepted goals of the nation." He agreed that the charge most often preferred by

MADURAI

A workshop Camp for Teachers

The Department of youth Welfare, Madurai University, organised a Workshop camp for college teachers on *Student Services* from 10th January to 14th January 1972, with the help of United States Educational Foundation in India, New Delhi. The workshop camp was inaugurated by Dr. M. Varadarajan, Vice-Chancellor of the University. 49 teachers of colleges affiliated to the University, participated in the workshop camp. During the camp, the workshops discussed topics like: Student Services, Effective educational programmes, Students as individuals, Students in trouble, Students' rights and freedoms, Counselling as an approach to student needs

SARDAR PATEL

Annual Convocation—Some ifs and buts

The fourteenth Annual Convocation address was delivered by Professor V.K. Gokak, the former Vice-Chancellor of Bangalore University.

Surveying the Indian educational scene, Professor Gokak worriedly asked: "How shall we evolve a national system of education in modern India? The Indian Renaissance, which has revitalised every department of the Indian life, seems to have failed us here rather pitifully."

Among the problems, he listed "the pressure of numbers" and the "muddle" of the medium of instruction, decrying those who clamour for English, while their own knowledge of the language was "a grammarless cry."

Examinations, which, he thought, were becoming "a laughing stock for all, because there's hardly any validity or reliability left in these procedures"; and of course—politics.

He also felt that "it is possible that the abolition of constituencies of registered graduates and nomination of members by the Chancellor, on the recommendation of the Vice-Chancellor, will improve matters in a great measure."

FROM CAMPUSES

by Correspondents

agitating students against the management of higher education and advised the authority "to listen carefully to the voice of students in the governance of colleges and universities." Some modus operandi would have to be evolved by which students are given their rightful role in affairs of the university. Addressing students, he said: "there are certain aspects of the student movement which need re-consideration by the students themselves."

There can be no movement without a sense of responsibility; and if in the process of the movement, the university is itself destroyed, the movement becomes an exercise in futility."

Now was the time, he said, for both teachers and students to realise it, stressing the necessity of creating a large band of competent, committed teachers, without whom no educational role would be possible.

and Students' participation in University Governance. Dr. (Miss) Prem Pasricha, Research Officer, U.S.E.F.I., New Delhi, and Dr. Parker participated in, and guided the workshop, and delivered lectures.

South Gujarat Planning to Train Junior Lecturers

One of the Kothari Commission Recommendations—that of training the college lecturer—seems to be gathering momentum. It will be recalled that, the President of the IUB also made this recommendation during the course of his presidential address at the Annual Conference at Agra. The idea seems to have broken fresh ground: the UGC has approved a proposal of S. Gujarat University for organising an orientation course for junior college lecturers with two years' teaching experience, or less. The course will have an initial intake of 50, start from April 17 and last until May 28, 1972—a period of 6 weeks'.

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WRITING TECHNIQUES OF 3 INDIAN WRITERS TO BE TELEVISED!

Students at the University of Leeds, in Northern England, will soon be having on the BBC the techniques and styles of a number of leading Commonwealth writers in their own words.

Leeds University was the first to have a professorial chair in Commonwealth literature, and under this new scheme visiting poets and novelists will be interviewed for video recordings lasting 30 to 40 minutes.

Three Indian writers will be included in the initial series of recordings—R.K. Narayan, Nirad C. Chaudhuri and Khushwant Singh.

CEYLON COMPULSORY SERVICE ACT TO BE AMENDED—CHECKING THE BRAIN-DRAIN

By the time it appears in print, the Ceylon cabinet would have been probably seized of rather an important amendment to the Compulsory Service Act. The proposed amendment, which applies to graduates of 1961 and later, seeks to prevent professional talent—particularly doctors, including vet. surgeons and dentists, and engineers—from fleeing abroad. If accepted, it will extend graduates' compulsory service to the State to ten years from the present five. All university entrants will, first, sign a bond, and do the ten years' compulsory service. The Act will not apply to those whom the state is unable to offer employment within a year of their graduation.

The assumption—which, incidentally, is morally justified—is that those, who have enjoyed a free education, should return the obligation by serving the State.

Commonwealth Scholarship & Fellowship Plan Enters 11th year

The Commonwealth Scholarship and Fellowship Plan in Britain, which is administered by the Association from London, is now in its eleventh year of operation.

The News...

tion. It selects and places the different categories of award holders from overseas Commonwealth countries and is also concerned with their academic progress while in Britain. During this year, 249 new scholars and academic staff scholars from 31 Commonwealth countries, are holding awards in Britain.

An 8 per cent increase in the number of overseas students at British universities last year was noted in the Annual Report of the Association of Commonwealth Universities for the academic year 1970-71.

The number enrolled for full-time study or research totalled 18,563. Of these 8,980 came to Britain from other parts of the Commonwealth. The largest number of Commonwealth students—1,052—come from Canada. Indian students numbered 880.

The most popular subjects for study were engineering and technology, biological and physical sciences, social, administrative and business studies, and medicine, dentistry and health, in that order.

Ceylon Creates a University of 5 Campuses

The new Act of 1972—which supersedes that of Higher Education of 1966—amalgamates five Ceylonese universities into one—the new, integrated University of Ceylon.

The Education Minister of Ceylon has appointed the present Vice-Chancellor of Colombo University, Professor B. A. Abeywickrema, as its first Vice-Chancellor, and may soon pick the various campus presidents from among these likely candidates: Dr. Shelton Kodikara (Peradeniya); Dr. Osmund Jayaratne (Colombo); Professor Hema Ellawela (Vidyodaya); Dr. Keerthi Dissanayaka (Vidyalankara); Mr. L. H. Sumanadasa (Katubedda).

Faculty deans will, however, be appointed by the Vice-Chancellor.

Dr. A. K. Jayasend, a Senior Lecturer of Pharmacology at Peradeniya, is expected to become the Registrar.

The new Act provides for the following university officers: Chancellor (Governor-General), Pro-Chancellor (Education Minister), Vice-Chancellor, Campus Presidents, Deans of faculties, Registrar, Treasurer, Librarian and any person holding a post declared by the Act to be that of an officer.

The single-term tenure of the Vice-Chancellor will be for three years, unless he vacates it earlier or reaches his 65th birthday—whichever event occurs sooner.

The Vice-Chancellor will revert, either on relinquishing his office or on removal, to the substantive post held by him previously. He may be removed from office on a no-confidence vote by a two-thirds majority of the Board of Governors. Also, the Minister of Education may remove him in public interest; but such removal shall be "forthwith" reported to the House of Representatives.

The Act also says that it is

the "duty" of the Vice-Chancellor to: (1) consult the Minister in a situation which could endanger smooth working of the university or a campus; and (2) have regular consultation with him on matters pertaining to the university, or any authority, or bodies—such as the Board of Governors, the Senate, Campus Boards, Faculty Councils Departments, Academic Committees, etc.—areas where academic freedom is not involved.

The administration of the university—and of these authorities—will be carried on in accordance with the Government's official language policy.

The Board of Governors may transfer a faculty department, or a sub-department, or even a member of the staff, from one campus to the other.

The most important provision of the Act, however, is that all important bodies of the University will have student representation.

As the chief academic authority, the Senate will generally control the direction of education standards, assessment and research.

Some additional powers vested in the Govt. relate to such matters, as: (i) making arrangements for conduct of courses in educational institutions outside the university; (ii) charging fees for such purposes; (iii) establishing campus faculties, schools and institutes of the university; and (iv) creating facilities for the formation of NCC platoon of university students.

SIR . . .

Do you want the Kittel Dictionary?

I would like to bring to the notice of the public that Volumes II, III and IV of the revised Kittel's Kannada-English Dictionary are available at Kittel College, Dharwar.

John Sathyanathan
Principal
Dharwar

A MEDICAL UNIVERSITY IN EVERY STATE

Demands the Indian Medical Council

The establishment of an exclusive medical university in every state in India has been recently demanded by the Indian Medical Council.

The Council's demand is predicated upon the view that there is a large number of medical colleges currently affiliated to various state universities, resulting in the difference of levels, both of education and examination, between one college and another.

The number of students being decidedly on the increase, the need is more urgent now—feels the Council—for setting up purely medical universities in every state, to which all colleges in a state may be attached, to bring about uniformity in the standards of teaching and examination.

You Missed!

CRRI Develops Fire-Retardant Paints

The Central Road Research Institute at Roorkee has developed a new fire-resisting paint which when impregnated into, or applied on a wooden surface, can prevent the wood from catching fire, according to a CSIR press release.

When contacted by heat, the paint develops an instant foam structure, and obstructs the flame from spreading. The paint is water-dilutable.

The raw materials used in its preparation are polyvinyl acetate emulsion, ammonium phosphate and other special additives.

And Now "Off-Campus" University too !

Students of Bangkok's Kasetsart University have launched a project to teach the children of the poor. Presided over by Miss Somsiri Chongcharoen, a student of the Faculty of Economics and Business Administration, the "off-campus university" will concentrate on children in the 6 to 20 age bracket.

The promoters of the "off-campus university" feel that, despite the existence of a compulsory education act, many children are not being educated for financial reasons. Even though 7 years of schooling is compulsory, a large number of children are staying out of school, mainly because of exemptions, one of which stipulates that children residing more than two kilometers from a public primary school may not attend classes if their parents object. Since most of the slum areas do not have a school within easy reach, the children have no way of acquiring a basic education.

The "off-campus university" is also seen as a possible answer to the chronic problem of "tea money" in private schools, the lack of room in state-run schools has given a boost to commercialization of primary education. A number of private schools thrive on corruption, charging what is euphemistically known as "tea money" for admitting students.

The sponsors of this project have collected donations, books and varied equipment from local well-to-do families. Similarly, classroom space has also been made available by people living nearby. Students of other universities, too, have been asked to join the project to turn it into a full-scale national movement. —IE Bulletin, Brussels.

THE NEWS YOU MISSED !

CSRI Technology Licensed to UAR

The process for permanent press finish of cotton polyester blend fabrics—developed, under the CSIR, at the Ahmedabad Textile Industries Research Association (ATIRA)—has been licensed to the UAR against a know-how fee totalling £10,000 sterling. ATIRA—which will send its specialists for initiating production—has also undertaken to provide both the technical know-how—including quality control—and to train UAR technicians in the process.

Developed in 1968, the process is already being commercially utilised by two exclusive Indian licensees—one at Bombay; the other at Ahmedabad. Research is progressing well on developing a process that will give permanent press finish to purely cotton fabrics also.

Turning Millscale into Iron Powder

CECRI—the short form of Central Electro-Chemical Research Institute, at Karaikudi—has found a new use for large quantities of iron millscale—a waste byproduct of sheet rolling and wire-and-rod drawing industries; it has succeeded in turning it into iron powder, used in the manufacturing welding electrodes, sintered metal components, and chemicals—where it is used as reductant.

The CECRI process is quite economical even on a small scale—say 500 kg/day. No foreign machines are required; our own can do the trick. Besides, the powder produced compares well with any made elsewhere in the world; and is expected to save foreign exchange expended otherwise on the importation of powder metallurgical purposes.

International Sanskrit Conference

The International Sanskrit Conference will be held in New Delhi from March 27 to 31, 1972, under the joint auspices of the Ministry of Education and Social Welfare, and the Indian National Commission for cooperation with UNESCO.

Over a hundred foreign delegates, from over forty countries, and four hundred our own, are likely to participate. The themes for discussion are: "Sanskrit and World Languages"; "Sanskrit and World Literature"; "Sanskrit and World Thought"; "Sanskrit and World Culture"; and contribution of a particular country or region to Sanskrit through the ages.

Ceylonese Students May Join P. A. U.

The High Commissioner for Ceylon in India Mr N.Q. Dias, who visited the Punjab Agricultural University, said that he was very much impressed with the standard of teaching and research in different colleges of the University. He said Ceylonese students, both boys and girls, would be sent to join these colleges, particularly those of Home Science, Agricultural Engineering and Veterinary Medicine.

The Punjab Agricultural University, which already has some hundred students belonging to 15 foreign countries, will welcome them.

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Deg Nala Disease Back?

A Punjab Agricultural University researcher, Dr. Mohan Singh Kwatra, thinks that the current buffalo disease, which has appeared in epidemic form in the upper areas of Punjab, is caused by some toxic substance found in the paddy-straw (IR.8) variety—a high yielding strain—when it is fed to these animals. Early symptomatic rigour mortis affects the tips of ears and the tail, although even hooves have been observed to have been cast off in severe cases. Although it does not find mention anywhere in the manuals of Veterinary medicine, a disease with similar symptoms was recorded by Dr. Sharilaw—a British surgeon—in the areas of Deg Nala, in 1938. He calls it *Deg Nala Disease*.

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Vice Chancellor, Dr. D. P. Singh (3rd from right) at the Exhibition,

THE PANTNAGAR FAIR

The All India Farmers' Fair and Agro-Industrial Exhibition was held at the U.P. Agricultural University, Pantnagar from 18th to 25th Feb., 1972. A large number of farmers from various parts of the country participated in this Fair. A party of farmers came even from Nepal Tarai after trekking long distances. In quest of new knowledge and seeds, some farmers came all the way from

remote, snow-bound areas in the border districts of Chamoli, Pithoragarh and Uttar Kashi.

The inauguration of the Fair was marked by an impressive 2-mile long farm machinery parade. Farmers dressed in festive clothes came with their tractors, harvesters and other farm machinery to participate in this unique parade.

In his message on the inauguration of the Fair, Dr. D.P. Singh, Vice-Chancellor of the U.P. Agricultural University, expressed great satisfaction over the decisive victory in recent war for defence of the country's long-cherished ideals of freedom, democracy and secularism. He urged the people to show similar sense of devotion and dedication in winning the war on the economic front.

He revealed that in pursuance of this objective, the Pantnagar University had already released a number of high-yielding varieties and hybrids of different crops. The Pantnagar based Tarai Development Corporation has targets to meet about one-third of the total requirement of the country for the quality seed of high yielding varieties of different crops. The Tarai Corporation, he added, has supplied quality seeds not only to almost all the States in India but also neighbouring Nepal and recently even to Bangla Desh.

Dr. D.P. Singh informed that the University has also simultaneously launched war against protein hunger. The Pantnagar University has already drawn up an ambitious plan for the establishment of a full-fledged Food Science Division at an estimated cost of Rs. 20 lakhs. The processing plant of the Division is expected to produce soy-based breakfast foods and mid-day lunch, soy milk and other soy-milk products.

Dr. D.P. Singh added that degree courses in Farm Management and Administration were soon going to be introduced at the Pantnagar University. These are being introduced with a view to solving the post-green revolution problems of the future.



The Fifteenth annual convocation of Sri Venkateswara University, on Feb. 5, 1972. Seen in the picture above, from left to right : Mr. M. M. Ramakrishnan, Registrar; Dr. D. D. Jaganatha Reddy, V. C; Shri Khandubhai Desai, A. P. Governor; and Mr. P. V. Narisimha Rao, Chief Minister and Pro-Chancellor.

One sunny day in winter, half a century ago, a poet, who wore a flowing and graceful beard of a sufi saint, brought together a few boys among "the warm shadows of dignified moderation" of Amarkunj. He was writing "a poem in a medium not of words."

The poet was Rabindranath Tagore. The day was twenty-fourth of December, and the boys he brought were the first batch of students to begin a new kind of school—Visva Bharati.

The founding of Visva-Bharti was a climax of a long, drawn-out battle of a Robinson Crusoe, "face to face with solitary nature" like the true hero of Sartre's existentialism.

It was an act, not of challenge; but of faith: the faith of a visionary, "longing for freedom, the memory which seems to go back beyond the skyline of my birth." He sought an altogether different kind of freedom—a freedom quite distinct from the so-called independence of modern man, who is neither competent to control the highly complex mechanical processes at work, nor assimilative enough "to simplify" the goods they turn out "into harmony with his natural

mingling with the brown earth." As he says of himself in his inimitable whispering style: Visva Bharti had its origin in his rejection of the cage, to whose limitations modern man wanted to limit himself. He wanted to become not its part; he wanted to be its master.

He wanted to discard the malignant wisdom of a modern adult, and enjoy the harmless happiness of a child. He wanted to flee the world of hypocritical respectability—"the collous decency of the pavement."

"The non-civilised triumphed too soon..."

Even though he was sent to school as part of the usual ritual, he feared its walls. He feared that they would cave in on him and imprison him for ever. "The non-civilised triumphed in me too soon and drove me away." He had a great thirst for colour and variety—and movement. He was sick of "the crowded solitude of Calcutta, where man was everywhere, with no gap for the immense non-human." As he says of himself, "the phantom of my boyhood sought to live in the lives of other boys — to build up its

FOCUS : VISVA

needs." Nay, not this kind of independence, which was merely dumb and unassertive passivity. His quest was for dynamic freedom—the freedom of movement. He wanted to be free to unite the individual spirit with the cosmic spirit—"a perfect freedom which we realize, not through our response, but in being."

Homesick Fancies of An Exile

He was like a Kalidasa, banished from the town of his beloved, ever ready to seek her in his verses and re-create her in the colours of his imagination. He wanted to re-live his childhood, which was wrecked by a system of blind men bent on identifying an elephant—a system of victorian manners, which was "economical in time"—and, perhaps, in common sense. He felt trampled upon by "the modern city-bred spirit which had begun its triumphal car drive over the luscious green" of the immense rural land-scape. He wanted to return where "the mind would be poised upon a large feeling of the sky,

missing paradise, as only children can do with ingredients, which may not have any orthodox material, prescribed measure or standard value."

The wise silk-worm and the foolish butterfly

He wanted to get rid of the world of debit and credit. He thought that a silk worm which spins and the butterfly that floats on the air represented two different stages of evolution — "contrary to each other"; "the silk worm seems to have a cash value credited in its favour somewhere in Nature's accounting department. But the butterfly is irresponsible. The significance which it may possess has neither weight nor use. Perhaps it pleases the Lord Treasurer of colours, who has nothing to do with the account book and has a perfect mastery in the great art of wastefulness." He was prepared, as a poet, to be "compared to that foolish butterfly," happy not to be bound "to an interminable coil of duty." He felt neither apologetic nor sorry for asserting this inherited freedom of the spirit.



Prof. Prasanto Chandra Mahalanobis, who presided over the Golden Jubilee celebration of the Visva-Bharati, receiving the auspicious tilak : Dec. 24, 1971.

A room without walls

And Visva-Bharti is a poet's school. It has institutionalised Gandhiji's intense longing that he would like to keep his windows open so that all cultures of the world blew about freely in his room—perhaps, a room with no walls—like a serene and undisturbed hermitage.

Tagore rejected the values of the mercenary; and the stark hypocrisy of the philistine. He wanted to replace it all by a new world of culture that would ensure the freedom of the spirit—a world, in which science and commerce would be subservient to the will of man. He wanted to achieve what Huxley only uncertainly theorised — the “vitally savage” man mentally enough civilised to survive — a synthesis of Eastern passivity and Western activism. He wanted to create out of the first batch of those boys into something new—a new race, never wanting to let the too civilised triumph over the non-civilised, who values his freedom and stands guard over it jealously: “the relative proportion of the noncivilised and civilised man should be in the proportion of water and land

BHARATI



Representative of the Post & Telegraph Department offering the special commemorative stamp and First Day Cover, marking the Golden Jubilee of Visva-Bharati, to the First buyer, Shri Prabhatkumar Mukherjee, the Poet's eminent biographer : Dec. 24, 1971.

on our globe, the former predominating.” No wonder then, these words of his sum up the ultimate idealism of Visva-Bharati: “Visva Bharati represents India, where she has her wealth of mind which is for all. Visva Bharati acknowledges India's obligation to offer to others the hospitality of her best culture and India's right to accept from others their best.” He refused to believe that “the spirits of the East and the West, the Mary and Martha, can never meet to make perfect the realisation of truth.”

Visva-Bharati is an extension of Tagore's mind, representing a new dimension to freedom—the freedom to experience a direct and immediate communication with Nature; the freedom to be away from the deviations of a materialist civilisation; the freedom to be back to the eternal peace of rishis far, far away, where the earth and the sky meet in perfect, uninhibited harmony.

And it is the dream of a visionary come true—an ideal practicalised, an utopia accomplished!



Educational Administration :

CONSIDERING THE "IS"; DEFINING THE "OUGHT."

By : Dr. Fred. H. Weaver

"Education is usually considered the most potent instrument of social reform: but it is itself a proper object of reform," said Dr. Fred H. Weaver, while addressing Registrars and Administrative Officers of IITs, Indian Institutes of Management and a few other institutions three years ago. This article presents the salient points of this address.

Dr. Weaver worked with the Ford Foundation as a Consultant in the field of education for approximately three years. His recent death is a loss not only to the Foundation but also to the Indian universities, in whose welfare he was so deeply interested.

I recall that when the President of my University first broached the question of a deanship to me, I told him that I had no interest at all in the dreary routine and trivial detail of a dean's work. He replied that the bulk of any job is drudgery. "People don't write the Magna Carta every day. The work of educational administration does include much that is drudgery, but making routine duties into something meaningful must become a guiding principal with an educational administrator."

Two aspects of academic administration have especially attracted my attention: administrative relationships and educational administration as a branch of management education.

In relation to the first, I recall the definition that Fredrick Keppel gave of a dean: "The point of contact," he said, "between the mechanism of an educational institution and its human membership, often between administrative literalness and commonsense, is the Dean." The educational administrator has a sensitive part to play in comprehending and reconciling the many contending forces and diverse elements that usually exist in an educational institution. A large part of the role of the administrator is simply explaining and relating things. We are all aware of the importance of creativity, imagination, courage, leadership—qualities without which no one can become an administrator in any field. But the setting in which these qualities of character and intellect must be brought to bear is the setting of human relationships.

The administrator stands along the line of inter-relationship between the human components of his institution. He is also the nexus between the institution and its environment. Looking inward he sees the assemblage of scholars with their claims and prerogatives, and the behaviour, shortfalls, and needs of students as they seek a meaningful and useful education under the aegis of the faculty. He looks across the richness and precariousness of what is perhaps the most important agency that we have for social and human advance. At the same time, he looks outward across the broad reaches of the public, the Government and the array of people whose interest and support is quite essential to the success of an educational institution but whose background and outlook may be quite different from those of the students and the faculty members.

The administrator is called upon to protect the faculty and the students in their privilege of objectivity, of their right to criticize, to undertake, without fear, investigations whose consequences may be unpalatable or unpopular. At the same time, he is expected to maintain conditions that will insure the needed financial support of the Government or the public, as a guardian of the conditions, in which others do their work., that feature which Plato believed was the most important feature of an educational institution, namely its atmosphere. "A place of learning must be a place," he said, "where influences for good blow from every quarter like gentle zephyrs." Keeping the atmosphere is not the work of any one man, but

it is a test of the success of the administrator.

The administrator also has a teacher's role, in the sense of playing a vital part in shaping the lessons that his institution has to impart. He is at once the spokesman and the interpreter—of the intangible qualities of his institution, without being necessarily a scholar. Indeed, I consider it quite unlikely that a person who has the capacity for true scholarship will be satisfied with the lesser work of an administrator.

The administrator should endeavour to protect against de-humanizing or mechanistic tendencies in his institution. One example of de-humanisation is the excessive dependence upon objective or mechanical means of judging intellectual promise, like standard machine-gradable tests. Testing someone's intelligence according to whether he marks the right space in so-called multiple-choice tests is not worthy of an educational institution. In a university that I know the candidates for a degree in economics were given a comprehensive examination consisting of 30 true-false questions. When arguments sprang up over the answers the same test was administered to the faculty; and out of the 30 true-false questions there was not a single one on which the faculty were agreed as to the correct answer!

I turn now to the second topic: a training program for educational administrators. In expressing my ideas on this subject I am helped by the late Dr Homi J. Bhabha who wrote:* "The type of administration required for the growth of science and technology is quite different from the type of administration required for the operation of industrial enterprises and both of these are again quite different from the type of administration required for such matters as the preservation of law and order, administration of justice, finance, and so on. It is my view that the general absence of a proper administrative set-up for science is a bigger obstacle to the rapid growth of science and technology than the paucity of scientists and technologists, because a majority of the scientists and technologists we have are made less effective through the lack of right administrative support. The administration of scientific research and development is an even more subtle matter than the administration of industrial enterprises, and I am convinced that it cannot be done on the basis of borrowed knowledge."

If we are to consider the training of educational administrators, we must understand that we are concerned not merely with training in administration or management as such but with the concept of the educator as administrator; someone, whose administrative style and creed are grounded in an informed commitment to learning as an instrument of social good. However accomplished he may be as an administrator, the educational executive who understands education only in its institutional aspects, is disadvantaged in the same way as the teacher who has mastered the technique of teaching but lacks the understanding of his subject.

*in "Science and the problems of Development."

But if the art of administration in education is elusive, the need for it is compelling: administration is one of the instruments by which we make education fruitful as measurable social gain. The Prime Minister spoke of this recently in an address to the Indian Science Congress at Powai: "There is a hiatus," she said "between our knowledge and its translation into action." She deplored the failure of eminent Indian scholars and technologists to say what positive economic improvements could be brought about. This reminds me of one of my mentors in university administration who used to say: "The purpose of the university is not only to seek the truth but to make truth manifest in the lives of the people." The task of the educational administrator is to integrate intellectual strength and the human condition.

Education is usually considered the most potent instrument of social reform; but it is itself a proper object of reform, and administration is the most sensitive and effective point of the educational apparatus for this purpose. About scholars, it is well to remember however that the language of management falls with unpleasant effect upon their ears. I confess to my own displeasure in hearing students referred to as "raw material," graduates as the "finished product," and teachers as "personnel." A sentence of Beardsley Ruml and Donald Morrison in the material sent to us by Mr. Subramaniam speaks of the "chain of command" in educational institutions as an "almost tenuous line of influence." What they say may be true but the concept of a "chain of command" is inappropriate. Administration, in this sense, cannot permeate an academic institution. But the fact remains. There is a great administrative task to be done. Can management education institutions do it? What can they do?

A modern classic on the administration of higher education is the work of Clark Kerr, a renowned expert in management science, who became President of the University of California. His Godkin lectures, at Harvard in 1964, were a brilliant analysis of the predicament of American higher education. John Gardner says we face a crisis of organisation. Lord Fulton says the time has come for a complete restructuring of education. The condition of education round the world cries out for new insight in the realm of administration and organization. Who will answer? Will the universities? Will the institutions of management education? Will the Association of Registrars and Administrative Officers? I do not know who will, but I know that who will not try cannot!

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The higher priority given to this aspect of higher education takes its lead from recommendation No. 142 of the Education Commission. With the rapid expansion in higher education during the last 3 Plan periods, it would be befitting to review the existing position and various problems posed by it which could evolve a policy answering our growing and future needs.

Historically, post-graduate instruction in our country has grown in affiliated colleges, and universities were essentially examination-conducting bodies. In the three old Universities of Bombay, Calcutta and Madras, direct instruction was accepted as a responsibility of the University, as, for instance, the University School of Economics and Sociology and the Institute of Textile Technology of Bombay University. The Radhakrishnan Committee's Report and the subsequent creation of the University Grants Commission and the expansion of the latter's activities gave a strong momentum to the development of post-graduate instruction as a part of the development of Indian Universities (old and new). The element of developing post-graduate instruction is more markedly seen in the case of some of the new Universities which in their early stages have regarded this as a principal function to the extent of devoting nearly 50% to 60% of their normal expenditure to this activity.

In building up post-graduate instruction through University Departments, the Universities have asserted this function not only as a major activity but almost as a privileged one, to the exclusion of participation by its affiliated colleges. This has resulted in several unfortunate consequences :—(a) Inordinately heavy capital expenditure on buildings, equipments, etc. This was done to start formal departments for P.G. instruction without an eye for specialization either in instruction or in research. In some cases such expenditure has delayed priority programmes relating to the core function (e.g. research) of the University and its special features. (b) The University

Departments have been experiencing acute difficulty in recruitment of qualified and competent P.G. teachers and research workers. (c) In several University Departments it has not been possible to cope with the growing demand for admission by fully qualified and competent students, while in the case of some which have been fully developed, there is an acute shortage of students. (d) While it is too early to speak of the quality achievements of these departments in terms of research and publications, it is seen that in the case of many Departments

post-graduates who (i) would become efficient teachers and other qualified workers after their post-graduation, and (ii) would be ready to undertake significant research work in their branch of specialization.

2. The effective man-power-needs in this sector of education should be broadly known.

3. Students who apply for admission to post-graduate classes should have the minimum necessary qualification and degree of competence.

4. The agency which would

Colleges and Post-Graduate Teaching

By B.P. APTE, Vice-Chancellor, Poona

the per capita cost on the bases of enrolment and successful candidates are running too high. (e) The fact that the University Departments have not been able to meet their increasing output of graduates from our Universities wanting to take P.G. instruction is clearly seen from the following developments:—

1. The earlier system of recognised P.G. teachers had to be continued in the shape of contributed teachers from affiliated colleges.

2. Some Universities have been compelled to start P.G. Centres outside the University seat to meet this growing demand.

In the context of the rapidly rising enrolment in our colleges and the rise in the number of successful candidates at the first degree examination, it will be reasonable to conclude that the concept of imparting P.G. instruction only through University Departments will have to be radically modified to meet the changing situation.

The following basic conditions are necessary in shaping out a new policy:—

1. The quality of P.G. instruction should be of the standard expected by the Education Commission and will aim at training

take up P.G. instruction would be fully complying with norms laid down by the University.

On the basis of the foregoing considerations, it seems clear that the University Departments alone as constituted to-day need a clear restatement of their aims and objectives. In University Departments, only those subject-disciplines and their specialisations which require highly trained specialist personnel and where demand from the students is normally small (as in subjects like Mathematics or Physics) should be instituted. In other words, P.G. instruction by papers which cover the general aspects of a subject-discipline can be allocated to affiliated college agencies, if they possess the same type of qualified staff and other facilities. Secondly, special developments in a subject-discipline which are regarded by the University as its special feature should be the main concern of its Department. Thirdly, the major responsibility of a University Department should be to conduct and guide P.G. and post doctoral research of high merit, teaching for examination by papers being regarded as secondary.

In the functioning of a University Department, a consideration of the following norms is indi-

cated: (a) Its record of research and research guidance, both of teachers and students (b) The performance of students taking P.G. courses by papers and by research. In the case of degree by papers, it would naturally be by their performance in their examination; and, in the case of those by research, by the amount of time they have taken and the evaluation of cases not only by their referees but by the world of scholars in their subject discipline. (c) A scrutiny of applications for admission, enrolment and performance of the enrolled students every year. (d) Per capita cost of students-enrolled, sitting for an examination or submitting a thesis and the number successful every year. (e) A report on its specialized role in relation to similar University Departments in other Universities and evaluation of its performance during the year.

It would be clear from the foregoing discussion that it is no longer a question whether an affiliated college should be accepted as an agency for this work or otherwise. The question essentially is how to organize it *vis-a-vis* a University Department.

The need is clearly seen in the recent creation of P.G. centres in places outside University towns. If the P.G. instruction is an expression of the growing and acute need for such a facility, it needs to be organized on proper lines. The creation of such centres has several advantages like pooling of P.G. teachers from different colleges in the locality library, laboratory and other facilities and providing adequate opportunities for P.G. teachers in affiliated colleges which for want of such opportunity are frustrated, and affiliated colleges in turn suffer in tone and quality. The main problem regarding creation of P.G. centres relates to organization and finance. As has been done in the case of many centres now, a centre could be started at a senior local college and as regards financing, the major problem of meeting expenditure on account of teachers has been solved by the new Rs. 700-1100 grade. No extra remunera-

tion per lecture is to be paid, although conveyance charges may have to be paid. The University contribution to the centre will have to be possibly on the basis of a minimum expenditure and an additional per capita grant on the basis of enrolment. These details require to be worked out and adjusted to local conditions.

The organization of P.G. centres is an arrangement that would be suitable for places outside the University town. It could not possibly meet the need in the town itself where usually well-established colleges and senior and qualified teachers are available. Under the existing arrangements these are the very institutions and persons who are by passed in P.G. instruction and there has been a growing rift in the functioning of these institutions and their teachers, and in human relationship between the teachers in University Departments and these teachers. Further, library and laboratory facilities and other advantages available in such senior colleges remain unused. To meet the situation, it is suggested that in the University town itself arrangements for recognising each institute for specific subject-disciplines could be arrived at. In this connection, one of the points made by the late Prof. D.R. Gadgil would bear general application: 'Since the resources of the University or of Government are limited, P.G. teaching arrangements should be based on the principles of co-ordination of resources and economy. Establishment and maintenance of science departments is a matter of heavy expenditure especially for affiliated colleges and it should therefore receive a higher priority in the University itself. On the other hand, in the Arts and Social Sciences, the participation of colleges in organizing P.G. teaching should be encouraged on a more liberal basis as they have experienced personnel and a library built over a long period of time.' The same norms for recognition as in the case of University Departments would be strictly applied and such colleges may be allowed to do P.G. instruction both by papers

and research. Financial commitment on the part of the University would be mainly limited to a minimum grant and an additional per capita grant as in the case of P.G. centres. In both the cases it is clear that the management has to bear some additional cost but that would be fractional as against the advantages of maintaining a high standard of teaching and ensuring the tone and quality in its instruction that would add to its reputation.

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TOPIC:

(It's a forum for the intellectual; you, too, are invited to participate. Write on any aspect of University or Education. We want to make it alive and purposeful; and we want to make it representative and diverse: which means, we invite rejoinders, comments, counter-comments, and so forth. So, come forward!)

INTERNAL ASSESSMENT

The Academic Council of Osmania University discussed a proposal to introduce internal assessment at the graduate and the post-graduate levels. The present system of external examination is far from adequate; and in its report, the UGC rightly emphasized the importance of the problem in saying: "We are convinced that if we are to suggest any single reform in university education, it should be that of examinations."

It need hardly be mentioned that there are several aspects of a student's growth that the present system of examination does not measure. As early as 1966, Dr D.S. Kothari, Chairman of the UGC, said in his report to the Government that all external assessment should be replaced by a continuous internal evaluation of students. It was pointed out that the teacher best knows the capabilities of his student.

Although some members of the Council are in favour of total internal assessment through seminars, discussions and term papers, Osmania University will consider only partial internal assessment to supplement the external assessment, the reason for this being that in an earlier experiment with internal assessment it was noted that certain teachers behaved in a manner that justified distrust.

Internal assessment, which acts as an incentive for regularity and learning, is not totally new in this university. Engineering and technology courses already have it; and there is partial internal assessment to supplement external examination in journalism as well.

It will certainly save students from the demoralising results that total external assessment sometimes produces. Internal assessment is meant to serve as a fair moderator.

PAVAN SAHGAL
Lecturer in Journalism
Osmania University

TEACHING THE TEACHER

Annie Corbett of "New Society"

It is fashionable for British educationists to criticise their system of teacher training. As one said recently: "The teacher training system has had so many rotten eggs thrown at it that those in charge no longer notice the smell." The comment accurately indicates the strain which teacher training in England and Wales has been under in recent years.

But it underestimates its achievement.

In the last ten years alone, in response to a government expansion programme, the numbers of students on "initial" training courses (those leading to teaching qualifications) have trebled. In 1958 there were 32,000; in 1968, 110,000. The system has also absorbed major alterations: in 1960 the courses taken by the majority of students were lengthened from two to three years; in 1965 the range of courses was widened; in 1968 new arrangements were introduced for the government colleges.

Problem of Status

But teacher training still has a problem of status. Until 20 years ago, almost all teacher training took place in teacher training colleges; and it was concerned almost exclusively with teachers at the bottom-end of the system, in elementary schools. Yet even here, there has been a major achievement. With the introduction of universal secondary education in the late 1940s the colleges adopted a unified system of teacher training. In the colleges the entrance qualifications and the length of courses are the same, whether a teacher intends to teach in a primary or a secondary school. (Indeed, you can argue that this helps to explain why British primary schools, far from being the forgotten sector of education, have in fact pioneered much of the educational advance). And all teachers going into schools, however they have come by their qualified status, are similarly on probation for their first year.

Theory and Practice

The graduates in training go to one of 28 university departments of education. Over 95 per cent of these graduates train for secondary teaching — only ten university departments provide primary courses. During the year they take courses in the philosophy, psychology and sociology of education. They get practical experience observing and doing teaching practice (probably for about six weeks). Their qualification is a Diploma in Education (usually known as the Dip.Ed.).

The vast majority of students (104,000 of the 110,000 on all types of initial training) are at the 165

colleges of education (as the training colleges were renamed in 1964 — the name is supposed to reflect their modern approach). Most of the early colleges were founded by voluntary bodies, chiefly the churches. They still maintain 53 colleges. The other 112 are maintained by the local education authorities.

Half the students are taking courses for teaching in primary schools, a quarter take combined primary-secondary courses, the other quarter take secondary only. Some students (about 6,000) take specialised art, physical education and housecraft courses, and courses for teaching in technical colleges. Their style of course at colleges of education differs radically from those in university departments. College of education courses are what is termed "concurrent". This means that the personal higher education of the student goes on at the same time as professional training. In the university departments it is "consecutive," and follows on from the higher education.

Study of Children

Take an example: students at Bulmershe College near Reading do one study or series of studies in depth—for instance, English, French scientific studies, film and television, and dramatic art. Their professional training during the three years, like the university courses, drawn on educational philosophy, psychology and sociology. Bulmershe gives this some meaning when it describes the course as a study of children and schools, school organisation, curriculum and methods.

A substantial part of the work is practical. Students at Bulmershe observe children with closed-circuit television. They do teaching practice in at least two types of school for 16 to 18 weeks of the three-year course, and visit other schools. An interesting administrative note is that while one lot of students are out on teaching practice, another lot are brought into the college.

The minimum qualification for these college of education students is five passes at the Ordinary level of the General Certificate of Education (G.C.E.). In practice — with the competition for a place in higher education — most students are better qualified. Since the early 1960s, 60 per cent. have had at least one pass at the Advanced level of the G.C.M., and around 40 per cent have had two or more passes.

The majority of college students are under 21. Most of them are women. At present men make up almost 30 per cent of students, a proportion that the government, with its responsibility for teacher supply, would like to increase. Men are less likely to leave after only three or four years' service. There are also now a significant number of "mature" students (those over 25 years old). There are also encouraged as being likely to stay in teaching. Many of these students (of whom there are 16,000) attend college annexes sited near the residential areas. This is to help the women with families, who make up the bulk of mature students.

College—University Contrast

It is clear that there are contrasts between the college and the university students. In theory the universities have an important influence on the colleges through the "area training organisations". These 20 groups bring together the local university and colleges, the local education authorities and the teachers' associations. They are responsible for integrating local training facilities, overseeing the content of courses, and the examination. But administratively the colleges are the responsibility of local education authorities or voluntary bodies, as the case may be. Because teacher training is a national rather than a local responsibility. Money the local education authorities spend on their colleges is pooled among all authorities in proportion to their school population. The voluntary colleges receive a 100 per cent grant from the government for their running costs, and a maximum grant to 80 per cent towards approved capital expenditure.

A Government committee on higher education (the Robbins committee), which reported in 1963, suggested linking colleges and universities more closely. The committee thought colleges should be administered and financed through the universities and that the colleges should be federated in university schools of education. The government felt it could not make this change, which would have involved a relaxation of its control over teacher supply at a time of teacher shortage. But the government did agree that the local education authorities should no longer dominate college governing bodies. This gives the colleges more independence.

An academic recommendation of the Robbins Committee had more success. It proposed that colleges should be able to offer degree opportunities, under the supervision of their university institutes of education. The summer of 1969 will be the first in which substantial numbers of students sit for the degree (known as the B.Ed. — Bachelor of Education). As constituted at present, the B.Ed. adds an extra year immediately to the three-year course. Between 5 and 10 per cent of students are staying on for the fourth year, and in the next few years the proportion is expected to rise.

Pressure to Expand

Most of the efforts of colleges and universities are directed at the students doing "initial" courses. Some thousands of refresher and retraining courses for serving teachers are provided, most of them by local education authorities, but often these last only a day or so. About 200 courses are run by the Department of Education. Colleges and universities run most of the one-term or one-year courses (which last year involved more than 2,500 teachers). There will be pressure on the colleges and university departments to expand this effort, particularly as they reach the peak of their initial course expansion programme in 1970. Serving teachers are especially anxious to get a B.Ed.

Colleges And Post-Graduate Teaching

By K. L. Joshi

VICE-CHANCELLOR, INDORE

According to the basic facts and figures published by the U.G.C. in 1971, figures for the latest year, i.e. 1967-68, indicate that in all there were 2,899 colleges affiliated to about 70 Universities of which 170 were University colleges as against 2,749 colleges in the previous year of which 166 were University colleges. Of these in the year 1967-68, 479 colleges had post-graduate students on the rolls. Of the 479 colleges 332 are arts, science and commerce colleges. The remaining 147 are professional colleges which include 25 post-graduate colleges in Engineering, Technology and Architecture, 36 in Medicine, 44 in Education and 16 in Agriculture. The break-up of 332 arts, science and commerce colleges is as follows:

Colleges with M.A. classes only	110
M.Sc. classes only	39
M.Com. classes only	26
M.A. & M.Sc. only	94
M.Sc. and M. Com.	1
M.A. & M.Com.	24
M.A., M.Sc. & M. Com.	38
Total	332

Of these colleges 31 colleges had Ph.D. students on roll in arts subjects and 28 had Ph.D. science students on roll.

During the same year 85 University colleges had post-graduate students on the rolls. Of these 33 were arts, science and com-

merce colleges, while 52 were professional institutions. Of the 52, ten were in Engineering and Technology, 13 in Agriculture, 6 in Education and 5 each in Medicine and Law.

The total number of teaching departments in the year 1967-68 were 1,533. Of these 630 were in the Arts, 361 in the Sciences, 142 in Medicine, Pharmacy, Ayurved, Nursing etc., and 88 in Agriculture.

In the light of the above we have to consider the question of: (a) Post-graduate departments established by the University at their headquarters; (b) the position of the post-graduate classes held in different post-graduate colleges outside the headquarters of the University; (c) post-graduate colleges existing separately as such at the headquarters of the University in spite of the departments organized by the University; and (d) the need for rationalization of different scales of pay in post-graduate colleges and other colleges.

Even the concept of post-graduate colleges does not seem to have the same meaning in different parts of the country. It has got a certain currency which made even the Education Commission and the U.G.C. prescribe separate scales of pay for University teachers from those for affiliated colleges. In the affiliated colleges the distribution exists between senior and junior scales, the former being made applicable for post-graduate college teachers and the latter for degree college teachers. In the north where Agra University took a lead in establishing degree colleges and post-graduate colleges in different areas under its vast jurisdiction in the earlier days introduced also different scales of pay for teachers in post-graduate colleges and for teachers in degree colleges. In the University of Bombay this is not so, where a post-graduate teacher wherever he teaches is recognised as such by the University irrespective of the college in which he works, i.e. whether it is a degree college or a post-graduate college. In Delhi University, the University scales of pay are made applicable

to all the college teachers, i.e. in Delhi University the college teacher enjoys a greater privilege than college teachers in other Universities. Neither the Education Commission nor U.G.C. have tried to explain the point, except a general approach of the U.G.C. that gradually the distinction in the scales of pay of University teachers and college teachers should disappear. The result has been that a good many degree colleges are ambitious of becoming post-graduate colleges as the scales of pay of teachers there are higher and also it means a social and academic recognition of the abilities of the teachers. The Universities in their turn with the normal pressures in the academic bodies grant affiliation to post-graduate classes in the affiliated colleges irrespective of the consideration whether there are physical facilities of library, laboratory, equipment, accommodation as well as the quality of teachers.

With the facts before us and the figures given above it will appear that this is not a very unmanageable problem. So far as scales of pay are concerned it seems to me that the Delhi pattern should be made applicable all over the country and secondly the Bombay University pattern of recognition of its teachers as post-graduate teachers should also be made applicable universally. The following suggestions are further offered:

(1) No single college at any place outside the headquarters of the University should have post-graduate classes.

(2) In this connection the quotation from Dr. Kothari's speech delivered at the Vice-Chancellors' Conference in April 1969 is relevant. He said:

"In several parts of the country there is at present too much fragmentation of facilities at the postgraduate level. A major step towards strengthening of postgraduate education would be to pool together the available resources. There are far too many colleges and University departments in close proximity to one another (in a few cases separated by no

more than the width of a public road) providing post-graduate courses in the same subject, and almost invariably the facilities at each place in terms of staff, laboratory, equipment and library are deplorably inadequate. There is an urgent need for effective co-ordination and rationalization of post-graduate education and elimination of wasteful fragmentation. Concentration of effort and rational deployment of available resources would bring about a distinct improvement in quality at present deplorably low in several places."

The point made in the above extract by Dr. Kothari has to be considered and if in the headquarters of the University, besides the post-graduate departments of the University, there are post-graduate classes in different colleges, there should be proper co-ordination and this should be organized by a Board of post-graduate studies in the University. In other words, a co-ordinated programme of teaching has to be brought into existence in every subject and teachers capable of giving their best for the purpose of post-graduate teaching should be involved in the programme.

(3) When in a place there are more than 2 or 3 colleges the

postgraduate work should be co-ordinated in one centre under the guidance of the University with special assistance from the U.G.C. This centre will be outside the headquarters of the University, with the guidance of the University.

(4) At the headquarters of the University all post-graduate education should be controlled and guided by the University with the assistance of the Board of post-graduate studies. The post-graduate departments in the different colleges at the headquarters of the University should be co-ordinated with the post-graduate departments of the University and the teachers in different colleges should be recognised as post-graduate teachers if they fulfil certain qualifications.

(5) There should be no distinction between the salary of teachers of post-graduate colleges and degree colleges.

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is Happening in
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it is Captured
in the
Columns of
UNIVERSITY
NEWS !**



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I, Anjni Kumar, hereby declare that the particulars given above are true to the best of my knowledge and belief.

March 1, 1972

Sd/- Anjni Kumar,
Signature of Publisher

THE IDEA OF AN OPEN UNIVERSITY FOR DELHI

During the course of his convocation address to Delhi University, Professor S. Nurul Hasan was clearly in favour of experimenting with the "idea of an Open University adapted to our needs."

That only shows how helpful everyone is trying to be—a part from the British.

The British taught us the wise habit of looking for a precedent when in a tight corner. The idea of precedent has struck me mainly because our university structure was invented by them. There is no reason why we should not do what they did when they had to do it. And the difficulty they were up against was no different from our own: how to reconcile high academic standards and the puzzle of sheer numbers?

There might—or might not—have been much logic, in the first place, of accepting that kind of university; and if there was, it was entirely theirs, we enjoying no share in their thought processes. But there is urgent and pressing logic in imitating them now—which when said in a more sophisticated idiom will sound somewhat like this: "We are prepared to learn from everyone, even the British."

But there is one other problem—pessimists. After considering this matter for the last five minutes, I have come across two very effective ways—one is the wit of Galbraith; the other apparently the wisdom of Encyclopedia of Educational Philosophy. The unfamiliar face of a new idea need not draw their ire; for, says Galbraith: "Unlike the human beings, the more familiar the idea, the less contemptible it is." Nor should they be allowed to get away with saying that an error is a disaster: "If men were never deceived by their experience," says that great book of books, "it would never occur to them to ask whether anything is real or only an appearance." After all, some part of originality also consists in making our own original mistakes! If we learnt everything from the mistakes of others, half the fun of living will be lost.

But the idea is not to dishearten Parkinson! The problem is that when he said that the higher the number, the lower the efficiency, it was much before the coming of the open university. Its success has confounded both Mr. Parkinson and our astrologers! And the greatest part of this success story is that the English succeeded, in this particular instance, *without* the help of a precedent!

Apparently, we are more lucky. We have the advantage of two precedents—one of the British, the other our own. If we could make jets, and submarines, and the planes, we might as well succeed in running the *open* university.

And when you come right down to it, which other place will be more suitable as a locale for the experiment than Delhi? In addition to its many other qualities, it is a city where ideas have a peculiar knack of getting into men's heads!

Even then, to satisfy everyone of the ninety-thousand aspirants will be as impossible as crossing the Jamuna in a paper boat. Quite obviously, we may have to catch at a straw like the proverb-

W. D. Miranshah

ial drowning man, hoping that the straw will not give way!

Considered then against the overall perspective of available educational techniques, within which the Minister suggested the exploration of a solution, the *open* university seems like the only functional option—the only rationale of modern technological culture whose major accomplishment is confusion. It is a confusion both in art and thought. To survive, the common man must learn the litany of this confusion. And the most acceptable part of the logic of going that way is its economics—it will give everyone a rich man's knowledge on a poor man's budget.

UNIVERSITY OF DELHI DELHI-7.

Applications are invited for the posts of a Director and two Deputy Directors (Professional Studies) in the scale of Rs 1100-50-1300-60-1600 and Rs. 700-50-1250 respectively plus Dearness, City Compensatory and House Rent Allowances as admissible according to the University rules in force from time to time.

(a) FOR THE POST OF DIRECTOR

Essential Qualifications:—

(i) Good academic record with a first or high second class Master's Degree in any of the subjects with Doctorate Degree, or equivalent published work and teaching experience of Degree Classes of not less than 10 years, or equivalent research or practical experience;

OR

(ii) Good academic record with a first or high second class Master's Degree with teaching experience of Degree classes of not less than 15 years or equivalent practical experience.

Desirable Qualifications:

Administrative experience in a recognised institution, teaching Degree Classes or above and deep insight into running job-oriented/Vocational Courses.

(b) FOR THE POST OF DEPUTY DIRECTORS

Essential Qualifications:

(i) Good academic record with a first or high second class Master's Degree in any of the subjects, with Doctorate Degree or equivalent published work and teach-

ing experience of not less than 5 years in the case of those who hold Doctorate Degree and 10 years in case of those who do not possess Doctorate Degree, or equivalent research or practical experience:

OR

(ii) Good academic record with a first or high second class Master's Degree with teaching experience of Degree classes of not less than 15 years or equivalent practical experience.

Desirable Qualifications:

Administrative experience in a recognised institution, teaching Degree Classes or above and deep insight into running job-oriented/Vocational Courses.

NOTE: For persons having qualifications in the fields of Medical Sciences/Technology, the qualifications for Director/Deputy Directors will be as follows:

Director

A medical qualification registerable with the Medical Council of India, a high Post-Graduate/Research Degree or Diploma M.Sc., Ph.D., D.Sc. or equivalent in any of the subjects included in the faculty of Medical Sciences with teaching experience as Reader or Lecturer for at least five years in a Medical College.

OR

A high academic record with post-graduate qualifications in any branch or subject included in the faculty of Technology, preferably Ph.D., with 10 years teaching/Research/Professional experience. Ability to conduct and guide research and or development work.

UNIVERSITY NEWS

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Three years	Rs 25
Five years	Rs 40
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Deputy Directors:

A medical qualification registerable with the Medical Council of India, a high post-graduate/Research Degree or Diploma M.Sc., Ph.D., D.Sc. or equivalent diploma in any of the subjects in the faculty of Medical Sciences with teaching experience as Demonstrator/Registrar/Tutor or an equivalent post for at least 3 years in a medical college

OR

A high academic record with post-graduate qualifications in any branch or subject included in the faculty of Technology, preferably Ph.D., with 5 years Teaching/Research/Professional experience. Ability to conduct and guide research/development work.

The prescribed application forms can be had from the Registrar Office (Room No. 9) either personally or by sending a self-addressed stamped envelope for Rs. 1.35 to cover postage.

Applications alongwith the attested copies of Degree and other Certificates etc. should reach the undersigned not later than the 23rd March, 1972.

NOTE: 1. It will be open to the University to consider the names of suitable candidate as who may not have applied. Relaxation of any of the qualifications may be made in exceptional cases on the recommendations of the Selection Committee.

2. Canvassing in any form by or on behalf of the candidates will disqualify.

K.P. GOVIL
Registrar

SHANTI SWARUP BHATNAGAR MEMORIAL AWARDS

New Delhi, the March 2, 1972—Ten Scientists and Technologists have been named for Shanti Swarup Bhatnagar Memorial Award for the years 1968 and 1969.

The award is named after the late Dr. Shanti Swarup Bhatnagar, the distinguished Indian Scientist. Each year five prizes, each of the value of Rs. 10,000 are awarded for outstanding contribution in Physical Sciences, Chemical Sciences, Biological Sciences, Engineering, Medical Sciences and Mathematics (alternative years).

The Shanti Swarup Bhatnagar Memorial Award was introduced in 1957. So far 47 Indian Scientists and Technologists have received the Award.

The following are the recipients of the Shanti Swarup Bhatnagar Memorial Award for the years 1968 and 1969:—

Physical Sciences

1968 Award

1. Dr. A.P. Mitra,
Scientist,
National Physical Laboratory,
Hillside Road,
New Delhi-12.

1969 Award

2. Dr. A.N. Mitra,
Professor of Physics,
Delhi University,
Delhi.

Chemical Sciences

1968 Award.

1. Prof. C.N.R. Rao,
Head of the Deptt. of Chemistry,
Indian Institute of Technology,
Kanpur.

1969 Award.

2. Prof. A.C. Jain,
Head, Chemistry Deptt.,
University of Jammu,
Jammu.

Biological Sciences

1. Dr. T.A. Venkatasubramanian,
Head of the Deptt. of Biochemistry,
Vallabhbhai Patel Chest Institute,
Delhi University,
Delhi.

for 1968 Award.

Engineering Sciences

1. Dr. K.R. Chakravorty,
Director,
Fertilizer Corporation of India, P & D Division,
Sindri.

for 1968 Award.

Medical Sciences

1. Dr. U.K. Sheth,
Professor & Head,
Deptt. of Pharmacology,
Seth G.S. Medical College & Associates in Medicines,
K.E.M. Hospital,
Bombay.

jointly for 1968 Award and to
be shared equally.

&

2. Dr. S.R. Mukherjee,
Professor-in-Charge,
Deptt. of Experimental Medical Sciences,
Institute of Post Graduate Medical Education and Research,
Calcutta-20.

3. Prof. S. Kalyanaraman,
Professor of Neurosurgery,
Madras Medical College, Madras.

jointly for 1969 Award and to
be shared equally.

&

4. Prof. Ranjit Roy Chaudhury,
Director,
Post Graduate Institute of Medical Education and Research,
Chandigarh.

FOREIGN JOBS

University of Southampton

Professor of Microbiology in the Faculty of Medicine. Eligibility—must be registered medical practitioners. Applications, mentioning date of birth, names of three referees and a brief biodata, should reach BEFORE 25TH MARCH: The Academic Registrar, The University, Southampton SO9 5NH, England.

*University of Malaya (Department of Geography) (1) Chair of South-east Asian Geography (2) Chair of Land Use Study & Geomorphology.

Eligibility—Candidates of high academic qualifications, with wide teaching and research experience in respective fields.

Salary Range—Basic from Malaysian \$1800 (£503) per month.

Also liberal P.F. and Medical benefits.

Completed applications forms, which are available from Registrar, University of Malaya, Kuala Lumpur, Malaysia, should reach him BEFORE 27TH MARCH.

University of Belfast

Chair of Political Science

Salary £5,337 with contributory pension rights.

Applications (which should quote Ref. 72/) must reach before 18TH MARCH. The Assistant Secretary (Personnel), The Queen's University of Belfast, BT 7 INN, N. Ireland.

Lecturership in Education

Salary: £ 1,491 — £ 3,417 with contributory pension rights.

Applications should reach the Assistant Secretary (Personnel) as above, before 13TH MARCH, 1972.

University of Oxford

Readership in Modern South Asian History.

Stipend: £ 3,789—£ 4,401 p.a.

Write to: The Registrar, University Registry, Oxford, England.

CLASSIFIED ADS

गोरखपुर विश्वविद्यालय

गोरखपुर

सूचना

विज्ञापन संख्या ५ दिनांक ३-२-१९७२ में निम्न संशोधन पढ़ा जाए :

१-फैच में अस्थाई प्रवक्ता पद को स्थाई प्रवक्ता का पद समझा जाए ।

२-अंग्रेजी में रीडर पद हेतु जो अस्थायी पहले से आवेदनपत्र दे चुके हों उन्हें पुनः आवेदनपत्र प्रस्तुत करने की आवश्यकता नहीं है परन्तु इस आशय का एक पत्र उन्हें विश्वविद्यालय में प्रेषित करना होगा कि उनके पूर्व आवेदनपत्र का ही रीडर पद के लिए समझा जाए ।

कुल सचिव

UNIVERSITY OF JAMMU

Applications on the prescribed forms are invited for the following posts to reach the undersigned on or before March 25, 1972:—

1. Professors one each in Sanskrit and Law—(Scale Rs. 1100-1600)

2. Reader in Mathematics. (Specialization in Complex Analysis or Functional Analysis or Topology)—(Scale Rs. 700-50-1250).

3. Lecturer in Mathematics—(Scale Rs. 400-40-800 EB-50-950) (Post temporary for about one year in leave arrangement).

For full details and prescribed application forms please apply by sending a Crossed Postal Order for Re. 1/- cashable at Jammu Post Office drawn in favour of the Registrar, University of Jammu, Jammu.

Sd/-
(K.K. GUPTA)
Registrar.

THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA

NOTIFICATION NO. 23

Applications in the prescribed forms are invited on or before 27-3-1972 for the post of Professor of Continuing/

Adult Education of the grade of Rs. 1100-50-1300-60-1600 plus D.A., H.R.A. and P.F. benefit as per University rules. Prescribed application forms will be available from the undersigned on prepayment of Re. 1/- by means of a Crossed Postal Order.

DEPARTMENT OF CONTINUING/ADULT EDUCATION

Professor of Continuing/Adult Education: Qualifications: (a) *Essential*: A Ph.D. or a Master's Degree with second class in Adult/Continuing Education with Post-graduate teaching and research experience of three or seven years respectively in a University or an institution concerned with Adult/Continuing Education or Community Extension Work.

OR

A Ph.D. or a Master's Degree with second class in Sociology, Social Work, Education or Psychology or Extension Education with Post-graduate teaching and research experience of five or ten years respectively in a University or an institution concerned with Adult/Continuing Education or Community Extension Work. (b) *Desirable*: Administrative experience in planning and implementing field programmes in Adult/Continuing Education.

Only the most suitable candidates shall be called for interview.

(1) The post carries D.A., H.R.A., P.F. and benefit of Gratuity as per University rules.

(2) Candidates already in employment elsewhere should send five sets of applications in the prescribed form in advance along with the prescribed fees and attested copies of all certificates of all examinations and testimonials and also reprints if any of their research papers and one copy should be routed through their employer.

(3) Candidates if called for interview, will have to appear before the Selection Committee at their own expense.

(4) Incomplete applications, or those received late or on plain papers or those not accompanied by a Postal Order of Rs. 7.50 will not be considered.

The application forms should reach on or before 27-3-1972.

K.A. Amin
University Registrar

M.S. University of Baroda,
Baroda: 18th February, 1972.

UNIVERSITY OF DELHI

Applications are invited for the following posts:

S. No.—Department—Designation of the posts.

1. University Medical College—One Professor in Physiology

One Reader in Bio-Chemistry.

2. Faculty of Science—One Reader in History of Science & Scientific Methods.

3. Business Management & Industrial Administration—Three Lecturers.

4. Arabic and Persian—One tempo-

rary Lecturer in Persian.

5. Modern European Languages—One Lecturer in German.

6. Anthropology—One temporary Lecturer (Likely upto 30th Nov., 72).

7. Faculty of Music and Fine Arts—One Lecturer in Karnatak Music.

8. Botany—One Research Associate (CAS).

9. Chemistry—Two Junior Research Fellows (CAS).

10. Sociology—One Senior Research Fellow (CAS).

11. Mathematics—Lecturer in Mathematical Statistics.

The scales of pay of the posts are:—

1. Professor—Rs. 1100-50-1300-60-1600.

2. Reader—Rs. 700-50-1250.

3. Lecturer & Research Associate—Rs. 400-40-800-50-950.

4. Senior Research Fellow—Rs. 500/- p.m. fixed without allowances.

5. Junior Research Fellow—Rs. 300/- p.m. fixed without allowances.

A sum of Rs. 1000/- per annum is available to a Research Fellow for contingent expenditure.

The posts carry Dearness, City Compensatory and House Rent allowances as admissible according to the University rules in force from time to time. In the case of posts in the University Medical College non-practising allowances for those who have medical qualifications is also admissible—Rs. 500/- p.m. for Professor and Rs. 400/- p.m. for Reader.

1. GENERAL QUALIFICATIONS

(a) For Professor in Physiology

A medical qualification registrable with Medical Council of India, a high Post-Graduate/Research Degree in the subject i.e. M.D./M.Sc./Ph.D./M.Sc. etc. or equivalent qualifications together with a minimum of 5 years teaching experience as Reader/Assistant Professor/Lecturer in Medical College after obtaining the requisite post-graduate qualification.

(b) For Readership in Bio-Chemistry

A medical Degree registrable with the Medical Council of India, a high post-graduate Degree in the subject i.e. M.D./M.Sc./Ph.D./D.Sc./M.Sc. or equivalent qualifications together with at least three years teaching experience in a Medical College as Demonstrator/Tutor/Lecturer after obtaining the requisite post-graduate qualifications.

Note: If a suitable qualified medical person is not available, a non-medical person M.Sc. with Bio-Chemistry as a special subject and a Doctorate Degree with requisite teaching experience may be considered for appointment.

(c) For Readership in History of Science and Scientific Methods

Good academic record with first or high second class Master's Degree in any one of the Science subjects with a Doctor's Degree or equivalent published

work. Independent published work (in addition to the published work referred to above) with at least five years teaching or research experience in Honours/Post-Graduate classes essential.

(d) For Lectureships

Good academic record with a first or high second class Master's Degree or an equivalent Degree of a foreign University in the subject concerned.

(e) For Research Associateship in Botany (Advanced Centre)

The candidate should have a good academic record with a first or high second class Master's Degree in Botany followed by Doctorate Degree or equivalent published work.

(f) For Junior Research Fellowships in Chemistry (Advanced Centre)

First class Master's Degree (Specialization in Organic Chemistry) and evidence of aptitude for research work in Natural Product Chemistry.

(g) For Senior Research Fellowship in Sociology (Advanced Centre)

A Doctorate Degree in Sociology or Social Anthropology, or equivalent published research work, and aptitude for original and independent research.

NOTE: The fellows shall ordinarily be not over 35 years of age in case of Junior Fellowships and 40 years in case of Senior Fellowship. The Junior Fellowships are normally for a period of three years. The Senior Fellowship and Research Associateship are initially for a period of two years but further extension by one year is possible.

II SPECIAL DESIRABLE QUALIFICATIONS

1. For Readership in History of Science and Scientific Methods

Candidates must have specialized in teaching or research of History of Sciences and Scientific Methods, and should be capable of teaching the subjects to Honours and Post-Graduate classes, and also be able to guide research.

2. For Lectureships in Business Management and Industrial Administration

(a) For first post

Specialisation in Management Accounting and also familiarity with case method of discussion.

(b) For Second post

Specialisation in Financial Management/Economic measurement in Business decisions and also familiarity with case method of discussion.

(c) For Third post

Specialisation in Materials Management or Production Management and

also familiarity with case method of discussion.

Teaching experience in the post-graduate course in Management and/or special training in any advanced management Programme in India or abroad is desirable for all the three posts.

3. For lectureship in German

Teaching experience and training in Modern Method of teaching foreign language is desirable.

4. For temporary Lectureship in Anthropology

Specialisation in Pre-historic Archaeology and Material Culture.

5. For Lectureship in Karnatak Music

1. Experience of teaching of Degree classes for about two years.

2. Evidence of published work.

3. Working knowledge of three of the languages mentioned below:—

English, Telugu, Tamil, Malayalam, Kannada

6. For Research Associateship in Botany

Knowledge of Plant Morphology and Embryology essential, experimental studies, and knowledge of histochemical techniques and ultra-structure desirable.

7. For Lectureship in Mathematical Statistics

Doctoral work on a topic related to Mathematical Statistics or published research papers of merit and teaching experience.

Applications for Senior and Junior Fellowships on plain paper giving details of age, academic qualifications, experience of teaching, research and publication etc. should be sent to the Heads of the Departments of Chemistry and Sociology respectively, direct.

The prescribed application form for the other posts can be had from the Registrar Office (Room No. 9) either personally or by sending a self-addressed envelope and stamps worth Rs. 1.35 paise to cover postage.

Applications alongwith the attested copies of Degrees and other Certificates etc. should reach the undersigned not later than the 20th March, 1972.

NOTE: It will be open to the University to consider the names of suitable candidates who may not have applied. Relaxation of any of the qualifications may be made in exceptional cases in respect of all posts on the recommendations of the Selection Committee.

2. Candidates called for interview for the posts of Professor, Readers, Lecturers and Research Associate will be paid travelling allowances as per rules.

3. Canvassing in any form by or on behalf of the candidate will disqualify.

(K.P. GOVIL)
Registrar.



*Distinguished guests and alumni arriving
at the mango-grove for the Golden Jubilee
celebrations of the Visva-Bharati
Dec. 24, 1971.*



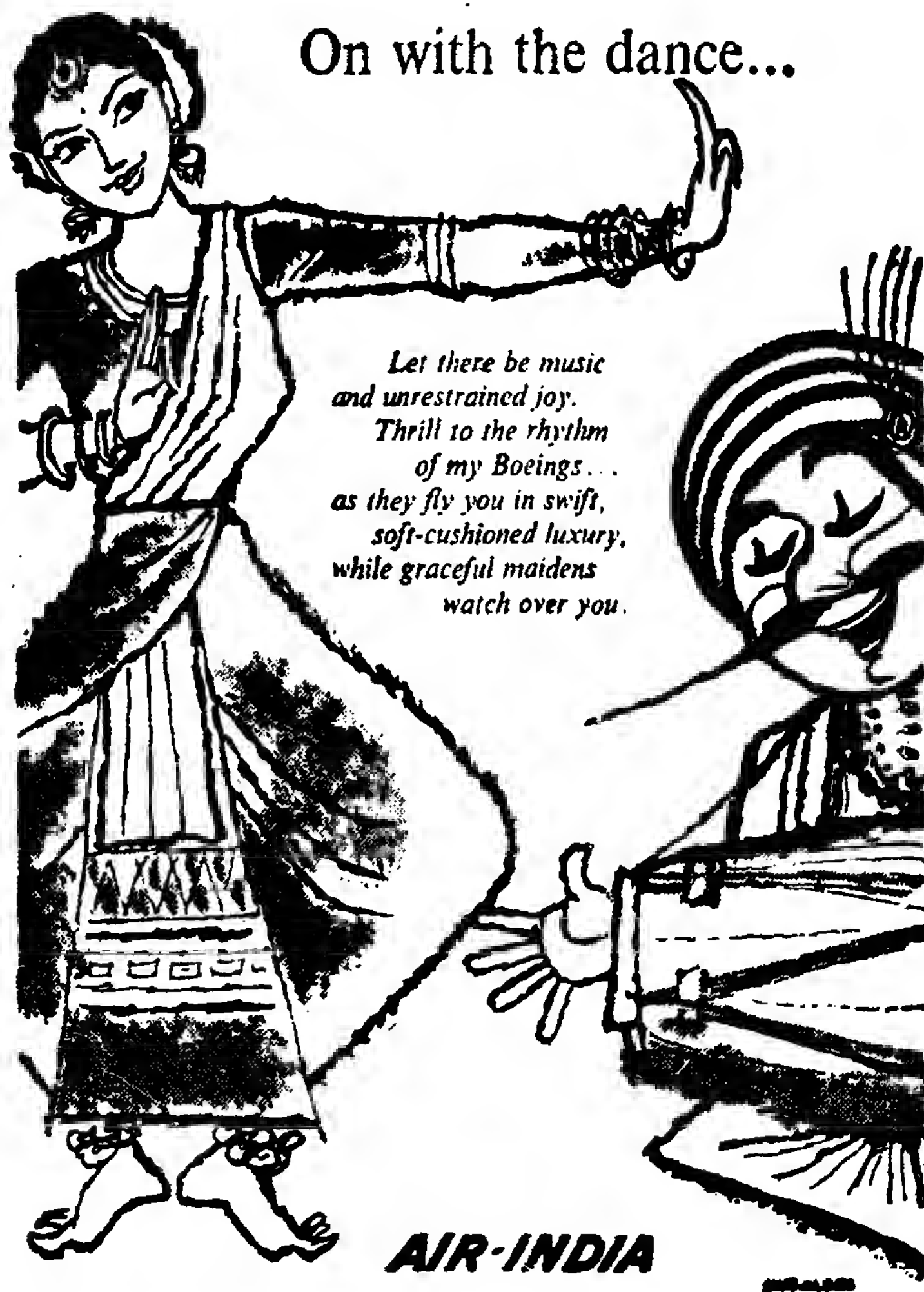
*Prayer held during the Poush-Festival,
to commemorate the "Initiation" Maharshi
Debendranath Tagore, the Poet's
father, to Brahmo-dharma : December
23, 1971.*



*Dr. Sudhisanjan Das, a former Chief
Justice of the Supreme Court, and a
distinguished alumnus, being welcomed
at the Seventieth Anniversary celebra-
tion of the Brahmacharyashram
December 23, 1971.*

VISVA BHARATI CELEBRATES GOLDEN JUBILEE

(Article appears on pages 12 and 13)



On with the dance...

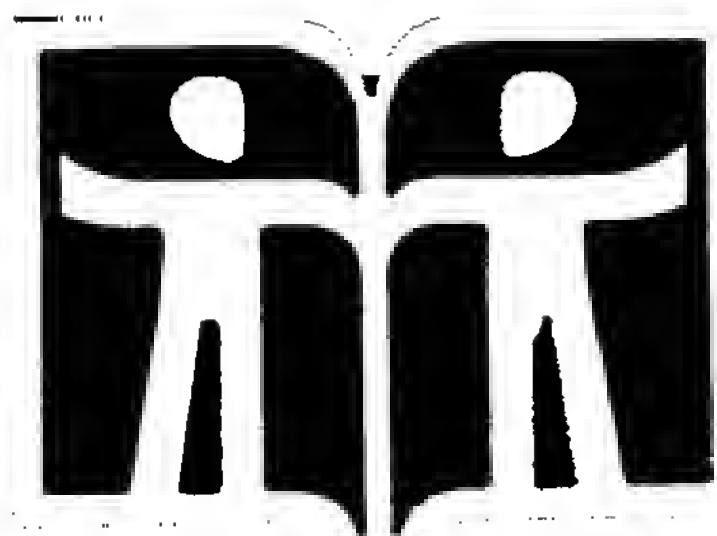
*Let there be music
and unrestrained joy.
Thrill to the rhythm
of my Boeings...
as they fly you in swift,
soft-cushioned luxury,
while graceful maidens
watch over you.*

AIR-INDIA

UNIVERSITY



News



University of Rajasthan

Advertisement No. 2/72

Application are invited through proper channel in case of those already in employment) so as to reach this office on or before 20th April 1972 in the prescribed form available from the Registrar's Office on pre-payment of Rs. 4/- (Rs. 2/- extra if required by post) for the underectioned posts :-

1. Professor :- Economics-I and History-I in the grade of Rs. 1100-50-1300-60-1600. **Qualifications :-** (i) A first or second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the subject concerned (ii) Either a research degree of a doctorate standard or published work of a high standard, and (iii) Ten years' experience of teaching at a University or College, or ten years' post-doctoral research experience and considerable independent published research work and some experience of guiding research. **Desirable :-** Economics—Preference will be given to those who have formal training and/or research specialisation in Mathematical Economics and/or Econometrics and the application of modern quantitative techniques in economic analysis and policy making. **History—**Historical scholarship of high order with special knowledge of modern India and contemporary History.

2. Readers :- Economics-I and Statistics-I in the grade of Rs. 700-50-1250. **Qualifications :-** (i) A first or second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the subject concerned (ii) Either a research degree of a doctorate standard or published work of a high standard, and (iii) Five years' experience of teaching at a University or a College or five years' post-doctoral research experience and independent published research work and some experience of guiding research. **Desirable :-** Economics—Preference will be given to those who have formal training and/or research specialisation in Mathematical Economics and/or Econometrics and the application of modern quantitative techniques in economic analysis and policy making. **Statistics—**A good training in probability and statistical inference with experience of statistical applications in some area or areas.

3. Reader in Business Administration—1 in the grade of Rs. 700-50-1250. **Qualifications :-** (i) A first or second class M.Com. degree of an Indian University or an equivalent qualification of a foreign University in the subject concerned (ii) Either a research degree of a doctorate standard or published work of a high standard, and (iii) Five years' experience of teaching at a Uni-

versity or a College or five years' post-doctoral research experience and independent published work, and some experience of guiding research. **Desirable :-** (i) Specialisation in production Management/Financial Management/Human Area/Managerial Economics/Marketing Management. (ii) Experience of teaching M.B.A. Classes or Diploma courses of an equivalent nature and acquaintance with the case Method of teaching.

Note :- (i) Subject concerned means Business Administration (ii) A candidate holding a general M.Com. degree will be deemed to possess the M.Com. degree in the subject concerned provided he had offered at his M.Com. Examination majority of papers of the subject prescribed for the M.Com. Examination of the University in that subject (iii) A candidate holding the M.B.A. degree will be deemed to possess the M.Com. degree in the subject concerned for the Department of Business Administration provided he had earlier obtained a Bachelor's/Master's degree in Commerce or Economics (iv) Teachers holding M.Com. degree or M.A. (Economics) degree with B. Com. and in permanent employment (which term includes those working on probation) of the University on 28-9-1970 will be deemed to possess the M.Com. degree in the subject concerned (v) Subject to fulfilment of the other requirements, a candidate holding a First or a Second class M.B.A. degree or one holding a post-graduate Diploma in Business/Industrial Management recognised for the purpose will be deemed qualified to teach M.B.A. & Diploma in Business/Industrial Management classes.

4. Lecturers :- History-1, Botany-2, Chemistry-1 and Mathematics-2 in the grade of Rs. 400-40-800-50-950. **Qualifications :-** A first class Master's degree in the subject concerned or in allied discipline of an Indian or foreign University, or a second class Master's degree with at least three years' experience of teaching degree classes or accredited research experience of at least three years (Preferably a research degree). **Desirable :-** History—(i) Specialisation in Ancient Indian History, Culture and Archaeology (ii) Training and experience of work in Archaeology including field archaeology. **Mathematics—**Specialisation in (a) Topology/Functional Analysis/Modern Algebra (b) Fluid Mechanics/Operations Research/Statistics.

5. Lecturer in Business Administration—1 in the grade of Rs. 400-40-800-50-950. **Qualification :-** A first class M.Com. degree of an Indian or foreign University in the subject concerned, or a second class M.Com. degree in the subject concerned with at least three years' experience of teaching degree classes or accredited research experience of at least three years (Preferably a research degree). **Desirable :-** (i) Specialisation in Production Management/Financial Management/Human Area/

Managerial Economics (ii) Experience of teaching M.B.A. classes or Diploma courses of an equivalent nature and acquaintance with the case Method of teaching.

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Ability to teach in Hindi would be an additional qualification. Grants of Provident Fund, D.A. and other allowances will be admissible as per University rules. For the post of professor it will be open to the University to consider the names of suitable candidates who may not have applied. Convassing in any form will be a disqualification. Candidates will be called for interview at their own expense. Application received after 20th April, 1971 will not be entertained. Those candidates who have applied for the post of Reader in Economics and Lecturer in Business Administration in response to our previous advertisement during the year 1971 need not apply again but they may send on plain paper a statement of additional qualifications, if any acquired since.

L. P. Vaish
Off. Registrar

University News

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Opinions expressed in the articles and reviews are individual and do not necessarily reflect the policies of the IUB.

Editor : W. D. Mirensah

A Virtual Breakthrough!

Though the Education Commission (1964-66) did not devote more than one paragraph to the concept of an autonomous college, this is one of those ideas which have been regarded with considerable fascination but scant conviction since the Report was published. Every now and then, indeed whenever people are at the end of the tether as far as the ills of university education are concerned, they refer to this recommendation as the solvent of all ills. In actual practice, however, nothing has been done so far.

Some 3-4 years ago, the UGC appointed a committee to work out the details of this proposal. These details were circulated to universities and they were told to invite proposals from colleges asking for autonomous status. Whether the colleges lacked the initiative or the universities did nothing to encourage it—and may have done something to curb it—in actual effect, not a single proposal was made in response to that circular. As somebody put it once, "autonomy is earned, not given." Evidently none of the colleges in India seemed to be ready for it.

In this context, the decision taken by the Bihar Government to confer the autonomous status on the Birla Institute of Technology, Mesre (Ranchi), blazes a new trail. The proposals circulated by the UGC were much more cautious than those incorporated in the Ordinance now. According to the Ordinance, the only connection between the Institute and the Ranchi University will be that in the degrees awarded to students the name of both the institutions would appear. For the rest, the Institute of Technology would be completely autonomous: it will lay down its own courses, conduct its own examinations and manage everything with regard to conditions of admission, standards of assessment and such other matters. These are far-reaching proposals and are likely to establish a precedent which several other institutions and universities in the country may follow in the next few years. It is only to be hoped that the Bill now to be considered by the Legislative assembly does not in any important way compromise either the daring or the breadth of the reforms already introduced.

—Amrik Singh

Problems of Agricultural Universities

[From our Correspondent]

"...While establishing new departments and faculties, it has to be made sure that it will be possible to maintain proper standards for which various resources, including human talents will be necessary. It is, therefore, prudent for us to take stock of the situation as we move along. One way to achieve this is through setting up of Accreditation Body. This will help to even out inter-institutional variability in standards which obtains today even in the case of agricultural universities. Such evaluation has a special significance in the case of service-oriented institutes like agricultural universities which have a specific role to play in determining the pace of agricultural development at present and its direction in future. I feel the Association of Agricultural Universities should assume the role of an Accreditation Body and thus help to raise the standard of education in appropriate manner." Shri A. P. Shinde, Union Minister of State for Agriculture, in his address to the Third Convention of the Association of Indian Agricultural Universities at Bangalore on March 25, 1972.

Perhaps no other development in the university world in recent years has been so significant in its impact as the establishment of agricultural universities in India. The first such university was established in 1960 at Pantnagar (U.P.). Since then their number has increased to 17, excluding the Indian Agricultural Research Institute, New Delhi, which has the status of a 'deemed to be a university'. During this decade or so that these have been in existence, the agricultural universities have amply lived up to the expectations from them. The remarkable growth in agricultural production in the last decade owes a good deal to their pioneering work. A few other adventurous factors have helped no doubt but the contribution of these universities is undeniably important.

Now that quite a few of these universities have come of age and the rest are moving in that direction, certain problems of consolidation, development, organisation etc., are now assuming greater

and greater importance. This was evident at the discussions that took place at the Third Convention of Agricultural Universities which met at Bangalore from March 22-25, 1972. What dominated the discussions however was not the problems of management and organisation so much

NOTE BOOK

as the recommendations made by the Interim Report of the National Commission on Agriculture which was appointed some time ago. The said Commission has yet to submit its full report but meanwhile it has submitted its Interim Report.

There is something puzzling about the interim recommendations. The single most important principle of organisation in respect of the agricultural universities was the

integral unity of teaching, research and extension. This is the principle on the basis of which the Land Grant Colleges and Universities of the USA did some very remarkable work in the last century. When the establishment of agricultural universities was mooted in the late fifties, more than one Indo-American teams went into the question and worked out the pattern on the basis of which the Indian agricultural universities were established. This integrated approach was adopted as the sheet anchor of this new venture and the results in the Punjab have been spectacularly successful. Its Chief Minister at that time was Partap Singh Kairon. He himself was a product of this system, having been educated at the University of Michigan (USA). When the Agricultural University, Ludhiana, came to be established he transferred all Research Stations to the said University. At the same time he demarcated the functions between the University and the State Department of Agriculture very clearly. Since

then the agricultural universities which came to be established in other parts of the country have also sought to organise themselves on the principle. While some States have accepted the principle readily, others have been slow and halting about it. In no State however was this principle disputed. There was argument only about how quick or how slow the State was in transferring research and extension responsibility to the universities.

The Interim Report of the National Commission on Agriculture has recommended a completely different pattern. The Association of the Agricultural Universities felt greatly exercised over this attempt to negate a great part of what had been done in the decade of sixties. On this subject it passed a clear and unambiguously worded resolution, the text of which can be seen here : ↓

BIRLA INSTITUTE OF TECHNOLOGY, MESRA IS NOW AUTONOMOUS !

On the 10th of March, 1972 Shri B.K. Barooah, Governor of Bihar, and the Chancellor of Ranchi University, issued an Ordinance and amended the Ranchi University Act so as to confer autonomous status on the Birla Institute of Technology, Mesra (Ranchi). According to the Ordinance, the said college has ceased to be an affiliated college of the Ranchi University and the decisions of the Senate, the Syndicate, the Academic Council, the Finance Committee, or any other authority of the University, will not be applicable to the said college any longer. Nor will the provisions of the statutes, ordinances and rules and regulations made by the University be applicable to the Birla Institute. How-

ever, the insignia of Ranchi University as well as of the Birla Institute of Technology will jointly appear on the degrees, diploma, certificates and other academic distinctions conferred.

According to another clause of the Ordinance, the powers to make rules to carry out the administration and regulate the activity of the Institute have been vested in the Chancellor of the Ranchi University.

It is hoped that within the next few weeks a Bill incorporating the provisions of this Ordinance will be presented to the Bihar Assembly and passed.

"The general consensus was that, if accepted in the present form the report would be a virtual negation of some of the essential tenets on which the concept of Agricultural University was developed and fostered in this country during past one decade. On a number of points, the report is not in conformity with some of the basic recommendations made by earlier commissions and committees on the subject such as Indo-American Teams and National Education Commissions etc., and the policy resolutions of the Government of India and the State Governments based on these recommendations.

"While some of the points raised during the course of discussions could be accommodated by appropriate rewording of some of the paragraphs, a number of others will have to be substantially changed. The house, therefore, was of the opinion that a number of the recommendations made in the report need reconsideration, clarification and modification.

"The house felt that, as far as education and research functions were concerned, there had been hardly any ambiguity or confusion between the functions of the State Governments and the Agricultural Universities except that in a few States there had been slow progress in transferring the state-wide research functions to the Agricultural Universities. In the case of extension functions, however, there had been a certain degree of overlapping between the programmes undertaken by the Agricultural Universities and the Government Departments in certain states. This alone needed to be clarified. But with the introduction of different categories of research "fundamentals", "applied" and "adaptive" etc., in the Commission's report and in view of the recommendation to entrust the responsibility of adaptive research to the State Departments, the problems of overlapping and duplication would create difficulties, hitherto unknown, in the area of research also. In addition this would lead to unwarranted practical and financial burdens...

"Further, the feeling was that the recommendations of the Commission were likely to reopen some of the already settled issues and put into jeopardy the entire concept on which the Agricultural Universities had been established and put the clock back. It might be indicated that this concept institutionalised in the form of Agricultural Universities had been found to be most suited to Indian Agricultural conditions and has had the measure of success in a short period of one decade of the magnitude that had no parallel in the history of the world. To disturb this set up at this stage, when most of the new Agricultural Universities were still in the formative stage would definitely impede the process of development, besides skewing the future development of the older agricultural universities."

British Team visits Punjab University

A team of Inter University Council of United Kingdom, consisting of Sir Norman Alexander, Educational Adviser to the Overseas Development Administration of the U.K. Government and Mr. C.R.O. Jones, Head of the University and Technical Education Department of U.K. visited the Panjab University, alongwith Mr. S.E. Hodgson, Representative of the British Council in India, on January 6 and 7.

The visit was sponsored by the University Grants Commission under a scheme of the IUC for Indo-UK collaboration in higher education.

The team met various Heads of University departments, and discussed the possibility of collaboration in programmes relating to higher education.

Sir Norman Alexander stressed the need for increasing exchange programmes of young scientists, technicians, educationists and scholars between the two countries. Mr. Jones said that the link between the U.G.C. and the British Universities should cover a wider range of subjects, while Mr. Hodgson observed that the Council

desired to do more through the University Grants Commission, in helping education improvement in India.

Seminar on Religious Studies

Inaugurating a seminar on Religious Studies organised by the Department of Guru Nanak Sikh Studies on 8th and 9th January, 1972, Mr. Suraj Bhan, Vice-Chancellor, urged universities to engage themselves in an unbiased study of various religions. What harmed the national interest was bigotry, dogmatism and narrowness and not the study of the genuine and nobler aspects of religion. It was these postulates which our academicians should highlight and interpret. He thought that a study of the metaphysical aspects of Religion, as also great philosophical systems which had deepened the religious thought, would be very desirable at various universities. At present, these were being studied as aspects of other disciplines. There was need that all such aspects be studied not in isolation but as part of a vast whole.

Those who participated in the seminar included Dr. G.L. Bakshi, Dr. Bhai Jodh Singh, Professor Abdul Majid Khan, Professor A.C. Banerjee and Dr. V. C. Pandey.

ANNUAL CONVOCATION

Dr. P. B. Gajendragadkar, former Chief Justice of India, and Chairman, Law Commission, while addressing the XXIV Annual Convocation of the University on February 5, called upon young men and women to realise that the tide of notionalism was at its height, and that the enthusiasm, self-confidence and the spirit of sacrifice which had won the recent war with Pakistan must be harnessed to bring about an egalitarian society in the country.

He urged universities to be seriously involved in the socio-economic objectives of the nation. The university community should take a leading role in creating an atmosphere for a new social order by incessant propaganda and persuasion so that society as a whole accepted the national approach.

Dr. G.S. Pathak, Vice-President of India, also the Chancellor of the University, presided. He conferred the degree of Doctor of Laws (Honoris Causa) on Mr. B.N. Chakravarty, Governor of Haryana, "in recognition of his valuable services in the field of administration and international relations."

The Vice-Chancellor, Mr. Suraj Bhan, conferred degrees on other candidates, a number of post-graduate and honour school degrees in all being 480.



At Punjab University Feb. 5: Chancellor G. S. Pathak is seen conferring LL.D. (Honoris Causa) on Governor B. N. Chakravarti.

The President Visits Pantnagar

The President was happy to note during his visit here that he was the first Chancellor of the University. "Pandit Pant's dream has come true." He congratulated them for their dedicated service in making it a "magnificent institution."

He said that the university had not only introduced relevant educational reforms but had also made substantial contribution in the area of agricultural research through its role as an important partner in the All India Crop Improvement Programmes of the I. C. A. R.

CAMPUS NEWS

The President referred to his book, "Jobs for Our Millions." The tragedy of rural unemployment was too great to be ignored and the tendency to flee to the urban areas must be arrested.

The President wanted that suitable areas of one to two thousand acres of land be selected in states which were cultivable. These lands should be distributed to the unemployed. He felt that until the time the first crop was raised, the Govt. should take the responsibility of paying them wages, including housing, schools and hospitals.

Change of Name

Pudding by any other name will still be pudding. So, when the U. P. Agricultural University

of Pantnagar decided to alter its name to the more idealistic Govind Ballabh Pant University of Agriculture and Technology, its essential importance as a forward-looking institute of agricultural research remained as high as before.

The V. C'S Report

The Vice-Chancellor, Dr. D. P. Singh, during the presentation of the University Programmes Report for 1971-72, generally reviewed the activities of his university during the year. As before, he recalled: "The university continued to play a leading role in bringing about the transformation of agriculture." Part of this transformation was visible from the all-round success of research, resident instruction, extension, extension education and development of the University farm as part of the integrated agricultural development of the Tarai area. Unfortunately, only a small fraction of the potential of this enormous state of Uttar Pradesh was tapped; wheat and Paddy, for instance, were about half of that produced in Panjab and Haryana. So was the rate of growth of agricultural productivity since the days of the Green Revolution.

Decision of the U.P. Government

Dr. Singh reported the happy decision of the U. P. State Govt. that six campuses would be established as part of three agricultural universities, including his own, to meet the diversity of its agricultural needs. According to this proposal, separate area in each campus will be assigned for research and extension education programmes as a first step towards eliminating the problems arising from the sim-

gle campus. Also, two Boards of Management for the U. P. Institute of Agricultural Sciences, Kanpur, and the college of Veterinary Sciences and Animal Husbandry, Mathura, have been set up.

A Hill Campus, too

The idea of establishing a campus in the hill areas is obviously uppermost in the minds of the planners. It is likely to cut down the time required for achieving results of research to about half in the case of wheat, by having even a second crop in the same year. The proposed hill campus will concentrate on hill agriculture, including winter wheat, sugarbeet and vegetable seeds, medicinal herbs, forestry, fruits and livestock development.

University Experiment Station

Purposeful and production-oriented research made possible by inter-disciplinary and international research cooperation resulted in better teaching and extension. A total of 585 experiments were conducted during 1971—there were 571 in 1970 and 492 in 1969. These research programmes covered all important crops of the area like wheat, rice, maize, triticale, sugarcane, etc., and the engineering and technology fields relating to water resource engineering, water use and management, etc.

Diversification of Research

Assuming that the wheat production might be higher than its demand, the research programme of the university was substantially expanded to such crops as Sunflower and Jute.

A World-Germplasm Bank

The university with its extensive land, water and other facilities is in the happy position of establishing this Bank.

During the last year 3,400 lines of soybean were obtained by the USAID and the University of Illinois. Several hundred other new cultures and varieties of wheat were obtained from CIMMYT, IRRI, and research institutions in Canada, Australia, Poland, Hungary, Middle-East and U.S.A.

This diversification is likely to reduce the appearance of diseases and pests.

Food Science and Technology

This centre will tackle the utilization problem of new crops like soybean, and find uses for surplus in existing crop like maize and wheat. Set up with the help of a grant of Rs. 40 lakhs from the USAID and the Department of Food, it is likely to become one of the best centres in the country.

Milk for Millions

When Dr. Singh said: "The Green Revolution should pave the way for the White Revolution," he meant milk products. The Tarai and hill areas seem to offer awfully good prospects for a milk-for-millions, project. The emergence of soybean as a source of very cheap milk, almost one fourth in price compared to milk, would also supplement this programme. A research project on breeds like Jersey, Holstines, Friesians, Red Dane and Brown Swiss is being tackled for immediate implementation. □

First Row (Left to Right)

Dr. Harcharan Singh
Mr. A. S. Udean
Dr. O. S. Bindra

Second Row

Mr. G. S. Mavi
Mr. P. B. Basak

Udaipur

THE AGRICULTURAL UNIVERSITY MOVES TO THE FIELDS

The latest trend in agricultural education is the movement of its instruction away from the four walls of the university into the wide open countryside. The Extension Directorate of the University of Udaipur is trying this bold new experiment, and its agricultural scientists have been busy helping the farmer practically in his fields.

A National Exhibition was organised on 16th March to initiate the farmer into the mainstream of agricultural education. Some 600 farmers were taught the new line of action for growing wheat in the villages of Nandshema, Semtal and Burgaon, situated in the inaccessible mountain ranges of Aravali.

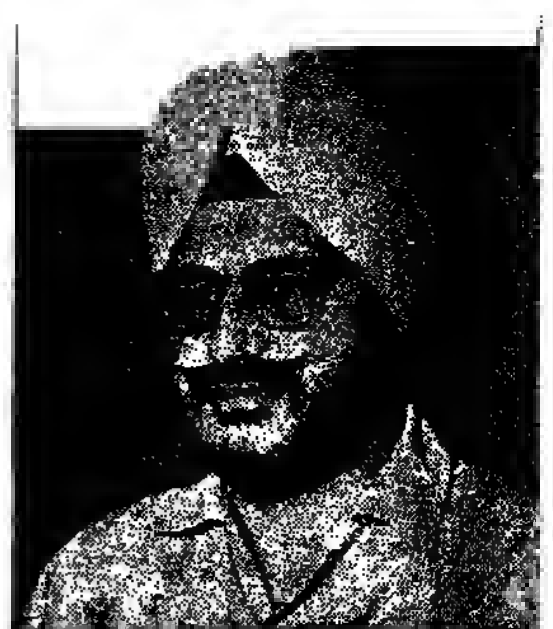
Students and the staff of the Planning Forum of the University apprised about 500 farmers of their various projects in order to stimulate their interest in the new ways of agriculture. A contest attracted 150 exhibits submitted by 55 farmers, and the winners were presented with Agricultural implements on behalf of the Planning Forum. □

FIVE PAU SCIENTISTS SHARE R-DAY INVENTION AWARDS !

RANDHAWA INAUGURATES NEW BUILDINGS

In his inaugural address, while he performed the opening ceremony of the new 23-lakh building to house the College of Basic Sciences & Humanities, the Vice-Chancellor, Dr M. S. Randhawa, observed: "The basic sciences have played a vital role in agriculture, as they provide the foundation for farm knowledge." He considered the university responsible for training its students in such a way as to make them competent to carry out all practical farm operations. The building, covering some 62,014 sq.ft. of base area, will house the college of Basic Sciences and Humanities established in 1965.

Dean A. S. Kalhan considered the day as historic in the life of the University. Recalling the words of the I.C.A.R. experts team, he said: "The P. A. U. is the only farm university in the country which has best realised the importance of teaching and basic sciences for promoting agriculture." □ □ □ □



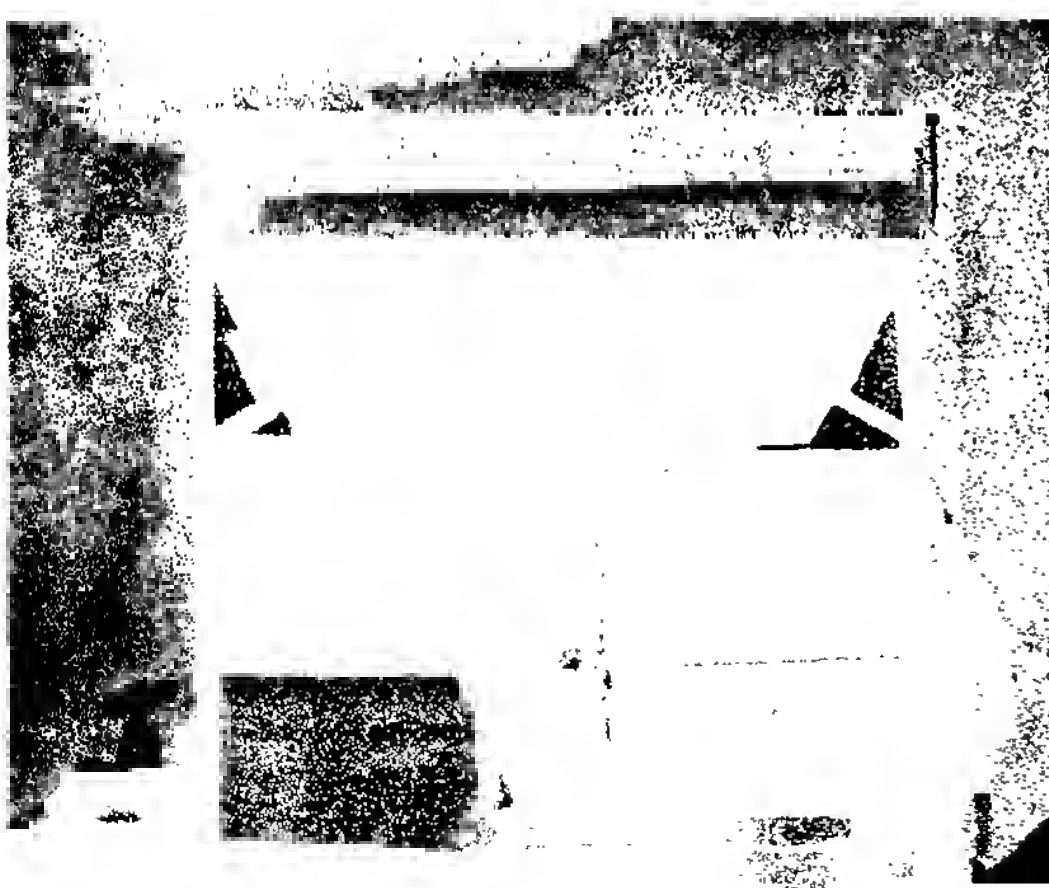
Dr O. S. Bindra, Professor and Head, Department of Zoology-Entomology, Dr Harcharan Singh, Associate Professor of Entomology, Mr G. S. Mavi and Mr Amar Singh Udean have been awarded Certificates of Merit for inventing a grain treating machine.

The machine costs Rs. 200.

The recommended insecticide for the treatment is Malathion which is effective against all storage pests including *khapra* and is safe to handle. Its residues also decrease in due course to make foodgrains fit for human consumption and get further reduced in the process of *chapati* making and do not accumulate in the body.

Mr P. B. Basak, Assistant Professor of Civil Engineering, got the National Prize of the Invention Promotion Board for developing an instrument to measure radial permeability of soils.

He developed this apparatus in collaboration with Dr M. Ananda Krishnan as part of his Masters work at I. I. T. Kanpur, in 1960. This is the only apparatus for measuring the radial permeability. It will help the prediction of yield of water from wells.





*Dr. Herbert Herring (Speaking).
Others in Picture : Dr. D. Jaganatha
Reddy, V. C., and Dr. (Mrs.) S.
Chennakesavan, Prof. of Philosophy*

SVU : "Meaning of History" —A SEMINAR

The Director of Max Muller Bhavan of Madras, Dr. Herbert Herring, delivered three lectures on "Meaning of History, the place of existentialism in modern European Philosophy," from 15th to 17th February, as part of the Extension Lecture Series on Philosophy.

The first lecture under this series was inaugurated by the Vice-Chancellor, Dr. D. Jaganatha Reddy on 15th February. He said that the aspects elected by Dr. Herring would make the meaning of History relevant to students of philosophy in its great importance, and that he would deal with trends in philosophical thought from ancient, medieval and renaissance to modern times. He was of opinion that university students should be constantly exposed to thinkers, workers and teachers—specialists in their different fields and hailing from different universities in the country or from abroad—to have an idea of comparative concepts of thinking to inspire original thinking among them. He

emphasised the multiple ways of approach to a subject by a grown-up, because it left a deep impress on the youth. Dr. Reddy also briefly indicated how India's ancient philosophers had contributed to the culture and values of this country, referring also to the philosophy of Plato, Karl Marx and Kant. He felt that the present era was marked by progressivism and revolution which both would be likely to change the existing order of things for better or for worse.

Dr. Herring dealt with recent philosophical trends in the West and how these were being influenced by modern technology. He particularly emphasised the close relationship which existed between changes of the organic development of the human being and the conceptions about man, his mind and his soul.

In the lecture, he dealt with the relevance and validity of existentialism, too.

Review Committee Arrives

A Review Committee, headed by Professor B. R. Seshachar, President of the Indian National Science Academy at New Delhi, visited the University on 11th and 12th February. The Committee met various Heads of Department. The experts of the Committee were quite helpful both to the faculty and students in discussing problems of mutual interest.

On the evening of the 11th February, a banquet was arranged for the review Committee at the residence of the Vice-Chancellor. This was the first review committee appointed for the university college consisting of Professor B. R. Seshachar, Dr. (Miss) P. S. Chari, Professor V. S. Huzur Bazaar, Professor N. Subba Reddy, Professor M. L. Dantwala, Dr. S. V. Kale, Dr. N. R. Ranganatham, Professor M. M. Gandhi, Dr. M. S. Rathor, Professor K. S. Desai, Dr. A. K. Majumdar, Professor B. M. Johri, Professor B. S. Ramakrishna, Professor M. G. Moraes, Dr. K. N. Sukla, Professor K. Bhattacharya and Shri M. K. Ramakrishnan.

BERHAMPUR—

The Fourth of March

Fourth of March was a proud day in the life of Berhampurians—and the academic Community.

The President, Dr. V. V. Giri, inaugurated new buildings of the Berhampur University and addressed the fifteenth convocation in a most orderly atmosphere—a result, due in large measure, to a sense of discipline exhibited by students.

The President was caught in a moment of fleeting nostalgia. He recalled his boyhood days, when he was taught by his teacher, Pt. Rama Lingam, at the very same university. Observed he: "Our aims and objectives of those days were different from those of the present day." He surveyed the pre-Partition scene of intense nationalism sweeping the country and said that the vital gap between a handful of the privileged upper classes and poverty stricken masses had to be rapidly removed—a task which necessitated introduction of fundamental reform in the Indian society.

Also present on the occasion were Chancellor Sardar Joginder Singh and Vice-Chancellor R. P. Padhi.

The day marked the coming of age of the university when its dream was realised of the inauguration of its own campus to house the university, constructed by the State P. W. D. at a cost of 9 million rupees—representing savings from the Block grants, from

the U.G.C. and a capital grant of one million rupees from the State Government.

The university directly manages seven post-graduate departments, to which soon will be added another five of chemistry, mathematics, economics, English and commerce. The university started with eleven affiliated colleges, a number which has now grown to seventeen, with some 8300 students on rolls, excluding of course one more college which earned its affiliation more recently.

Research and other activities

The entire teaching staff of all existing post-graduate departments has been appointed.

There are sixteen research scholars engaged in a variety of investigations under the guidance of this senior staff.

Teachers—some with National Distinction

Some of the teachers of the university have gained national distinction in their research—Dr. H. Pattnaik, the Professor of Botany, has been selected by the Indo-Czech Exchange Programme; Dr. S. N. Behra, a reader in Physics, has been invited to participate in a seminar at the Winter College, Trieste, Italy; Dr. B. K. Pattnaik, a Zoology lecturer, took part in an International Conference on human Ageing at Switzerland; and Dr. L. Satpathy, a lecturer in Physics, has been invited to speak at the Institute of Nuclear Physics at Juelich in West German.

Some Reforms

The university is also introducing examination reform as recom-

mended by the Education Commission (1964-66). It has decided to introduce, in the words of Vice-Chancellor Padhi, "a system of internal assessment to supplement evaluation through general public examinations." Forty per cent of marks will be determined on the basis of internal assessment spread over continuously throughout the course of academic studies and only 60 percent will be determined on the basis of performance in public examinations.

A student Council, too

The university has also implemented another equally important recommendation, which emanated from the G. Jendragadkar Committee on "Governance of Universities" by establishing the students council that will make recommendations to the university in all matters pertaining to, or affecting, students' academic work, discipline, welfare and supports. They want to develop the council into a forum for communication between the university and its students.

Sports

The university successfully conducted, during 1971, the Inter-University Basketball Tournament East Zone; though the university was the East Zone Champion during the previous year, it has been able to be runners up only in the finals.

National Service Scheme

The university has also introduced the N.C.C. scheme among 1000 students in ten affiliated colleges.



Guru Nanak University

The Vice-Chancellor, S. Bishan Singh Samundri, today congratulated Giani Zail Singh, Chief Minister, Punjab and his colleagues S. Umrao Singh, Education Minister, Mr. Hans Raj Sharma, Finance Minister, for assuming their respective offices.

The Vice-Chancellor was speaking in the meeting of the University Senate here. He reviewed the functioning of the University and its achievements during the past one year.

S. Harbans Singh, Chief Justice of Punjab and Haryana High Court proposed a vote of thanks to the Vice-Chancellor for doing a commendable job. He was supported by Principal B. S. Bahl, Sh. G. R. Sethi, S. Umrao Singh and Dr. Ram Singh.

Compulsory NCC Training

On the proposal of Principal B. S. Bahl and Mr. G. R. Sethi to impart compulsory N. C. C. training to the students of Arts Classes, the Vice-Chancellor said that he would discuss the proposal with the Principals. He sympathised with Private Colleges for seeking increased grants-in-aid on the pattern of Delhi University and made an appeal to the State Government to consider their claims. The Vice-Chancellor said that there was a difficulty in finding out talented persons for new Departments. A Study Centre would be opened at Jullundur during the next financial year, he said. He agreed with the opinion expressed in the House

that new orientation might be given to the Science Departments and emphasis should be laid on technology.

The change-over to Punjabi language in science subjects was desirable and had already been allowed but keeping in view the operation of Science Scholars under vast horizons, English medium could not be neglected.

Information Centre

He announced that an Information Centre for admissions in foreign countries would be opened and arrangements would be made to impart coaching for the examinations of the Union Services.

A Balanced Budget

The Senate of the Guru Nanak University approved the budget of the University for the year 1972-73. The meeting of the Senate was presided over by S. Bishan Singh Samundri, the Vice-Chancellor, who presented the balance budget with an income of Rupees 1,27,13,817 and an expenditure of the equal amount for the year 1972-73. Under the estimates for the year 1972-73, a provision of Rs. 1.65 crores has been made for the Capital Works.

New Departments

Provision has been made for the opening of new post-graduate teaching departments of Biology, Physics, Punjab School of Economics; English; Hindi; Punjabi; Linguistics; Mathematics; Punjabi Language, Literature and Culture; and Political Science. Provision has also been made for starting the Departments of Correspondence courses; the Department of Laws (Evening Classes); the Diploma in Library Science; Guru Ram Dass School of Planning; and Guru Nanak Art Gallery.

Sardar Patel University

The all India Conference on "Modern British And American Novel--1940-70"

The university organised a rather important conference in association with USEFI. Some 40 scholars from several universities presented research papers on various aspects of the contemporary novel as part of an overall seminar : "Modern British and American Novel." The period under review was 1940-70.

Professor R. Mehta, the Vice-Chancellor, inaugurated the conference. He explained the significance of such an event, timed with the silver jubilee celebrations of the University Town, and dealt with importance, in the context of modern literature, of the novel urging the various participants to augment the academic climate of the university.

Professor R.A. Dave of the English Department of the university (and Director of the Conference) pointed out that no work of art was ever made in a vacuum; it always grew from the soil which it must inevitably reflect. He said : "Fiction views life more realistically, vividly, and closely than most other art-forms. After all, we are in an age which has made us what we are; and it is hardly given to man to escape his times." The significance of contemporary literature was much greater than the novel of the past, irrespective of how great might have been the achievements of the novelists of the past. We must reckon with the novel of our day.

Validictory Function

Dr. Sundram of Rajasthan University and Dr. Raj Kohli of Delhi University, joined by Dr. Naresh Chandra of Lucknow, commended the success of the seminar, "whose intellectual and critical level is indeed high."

Professor Dave thanked the participants for having taken time off to come to the university and said: "This will inspire us all in our academic pursuit."

Dr. P. D. Syal, Programme Officer of U.S.E.F.I. was the chief of the (administrative) unit of the Conference.

Other events

Professor Manubhai Shah, Head of the Department, presented the Annual Report.

GUJARAT—An Indo-GDR Research Project

The Chancellor-Governor, Mr Shriman Narayan inaugurated an Indo-GDR joint research project, officially described as, "Measurement of Ionospheric Absorption of Radio Waves at different frequencies." Present on the occasion also was the GDR Consul-General, Dr. Herbert Fischer.

The proceedings were chaired by Prof. Umashanker Joshi, the Vice-Chancellor.

To facilitate the progress of this cooperative research project, the German Democratic Republic has gifted highly sophisticated automatic electronic equipment to the University.

The project, unique in many ways for Asia, will be jointly directed by Dr. K. M. Kotadia (Physics Department) and some German Scientists.

Linguistics From June 1972

The university has decided to introduce a two-year post graduate diploma course in Linguistics.

Refrigeration and Air-Condition Courses

These two courses also will start from June 1972 in the Faculty of Engineering.

Exciting Programmes Planned For Summer Vacations

It is proposed to organise, during the forthcoming summer vacations, three mountaineering camps for students, a dramatic training camp for teachers, and six camps of National Service Scheme activities, one being exclusively devoted to the orientation of Professors-in-Charge of N.S.S. Units in colleges.

SOME IMPORTANT PUBLICATIONS

- ☐ **Punjab Under the British Administration**
The British Administration
by DR. Y. B. MATHUR
- ☐ **Imperial Guptas**
(A detailed History of Gupta Period)
by SHRI O. P. SINGH BHATIA
- ☐ **History of India (1707-1857)**
by SHRI O. P. SINGH BHATIA
- ☐ **History of India (1857-1916)**
by SHRI O. P. SINGH BHATIA
- ☐ **Europe Since 1789**
by DR. R. R. SETHI & INDERJEET CHAWLA
- ☐ **A Map Study of European History**
- ☐ **A Map Study of British History**
- ☐ **A Map Study of Indian History**
by R. C. RAWAT
- ☐ **Economic Organisation**
by P. S. DHAM
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FOCUS

Books for all

Rene Maheu (Director General of Unesco)

For thousands of years the written word and for centuries the printed word have played a vital role in the preservation and transmission of knowledge. They have been man's most effective ally in fashioning his thought and in his conquest of freedom. Even if certain cultures have been founded on communication by word and gesture these cultures can no longer hope to survive or indeed develop in the modern world without recourse to the written word.

The book is the most dependable and the most convenient instrument of communication ever devised by man. With the book the human mind for the first time was able to conquer time and then space. In the past quarter of a century we have witnessed the development of the book as one of the means of mass communication and we must not fail to recognize the role and place of the book in the service of the new spirit of community that the mass media have made possible.

There exists in the world today a tremendous need for reading. So great is this need that for large portions of the world's population one can speak of a veritable "book famine". Yet while the technical revolution that has taken place in the production and distribution of books has made it possible to place on the market an ever-increasing number of relatively inexpensive, good quality books, the developing countries are suffering from a scarcity of books that is becoming more acute as educational opportunities grow.

The developing countries at present produce no more than one-fifth of the total number of books published in the world, so they must rely on book imports from abroad to help meet at least part of their needs. In the long run their full requirements can only be met by setting up their own national publishing industries.

It is equally or more important that the book—the unparalleled instrument for setting down man's wisdom and knowledge—promote individual fulfilment and social progress; that it give all persons a chance to appreciate the best that the human mind has to offer the world over; and that it serve to create a better understanding between peoples as a necessary step toward a true and lasting peace.

Even in countries with a thriving publishing industry, the book has by no means as yet become an integral part of everyone's life. These countries have no problem of getting the book to the reader, thanks to their extensive distribution systems and outlets. More often than not, the real problem for many of them now (though it varies considerably from country to country) is how to get the reader to the book. This is borne out by the high percentage of non-readers revealed by recent surveys.

Has the time not come for a full re-appraisal of the problems of publishing so that electronic and audio-visual techniques which are exerting a growing influence on books may be placed at the service of the publishing world? Since the book can no longer be isolated from the other major information media, should we not re-examine its role in society?

These are the kinds of problems the world community is invited to ponder during International Book Year, so that solutions may be worked out with the help, of course, of public authorities but also with that of all types of institutions whether they be regional, national or international as well as private individuals.

If International Book Year must be, above all, a national effort within each country aimed at mobilizing energies and resources and sparking off concrete initiatives, it must also be a vast movement of international co-operation.

In view of the immense needs of the developing countries, governments and bodies administering bilateral or multilateral aid programmes should make available to these countries the necessary technical and financial assistance to promote national book production and distribution.

During International Book Year, a preponderant role will naturally be played by the organizations grouping the professional members of the book

world—such as the authors, publishers, librarians and booksellers who have been closely associated with the launching of International Book Year and who have further demonstrated their co-operative spirit by adopting a common "Charter of the Book".

But International Book Year is above all the concern of the millions of ordinary people for whom reading books is part of their daily occupation, or a means of personal enlightenment.

TOPIC

A Central Ministry for Higher Education

Now that Dr. D. S. Kothari, Chairman of University Grants Commission, has expressed his desire to retire earlier than his period, for reasons best known either to him or Central Government, some would think that the line of great Chairmen of the U.G.C., like Dr. C. D. Deshmukh and Dr. D. S. Kothari, would come to an end. Indeed they have been rare men of integrity, scholarship and administrative talent.

This opportunity should be taken by the Central Government to review the whole position, whether a small organisation like the present U. G. C., patterned after the British model, is good enough for a vast country like India where there are nearly a 100 universities (including the deemed universities, IITs and Agricultural universities) 3300 colleges and more than 30 lakhs of students. For a small country like the U. K., the instrument of the U. G. C. has been helpful but we have to think whether we should not have a Central Ministry for Higher Education in which the U. G. C. could be merged to deal with the vast problems of the country making Parliament directly responsible for problems of manpower and Higher Education.

Secondly, it may be desirable at the same time to make higher education completely a central subject by necessary amendment to the Constitution, as the State Governments are finding it extremely difficult today to provide resources for all sectors of education,

i.e. primary, secondary and higher education. If they are relieved of the financial and administrative burden of higher education, they can devote more attention and finances to the ever-expanding sectors of primary and secondary education which utterly lack physical facilities like buildings, libraries, laboratories, efficient teachers, etc. The States would find it easier to deal with the problems of social necessities, i.e. primary and secondary education, and the Centre should take the responsibility of national requirements of manpower through proper organisation and administration of higher education. It will also contribute to our sense of national integration and establish uniform standards in relation to qualified manpower.

There is a parallel for this in the U.S.S.R. with its different Republics comparable with our States. In the U.S.S.R., the Ministry of Higher Education directs higher education completely in all the Republics through bodies responsible for the institutions concerned. They draw up guide-lines for long-term planning for the development of higher and specialised education, and prepare general educational and methodological material for higher and specialised education to assist the Republics in training highly qualified specialists versed in latest achievements of Science and Technology.

The machinery for higher education in a vast country like India has to be somewhat on the pattern of the U.S.S.R. Otherwise, the present disparities in standards of different States and in the liberal grants to the Central universities given by the U.G.C. and the humbler grants given to the State universities both by the U.G.C. and the State Governments, will continue. If, in a State committed to socialism, we want to remove disparities of the type that are occurring today in the field of higher education, the whole subject of higher education has to be centralised.

The proposed Central Ministry should be charged with administration and organisation of higher Education and Research in all fields, including Agriculture, Medicine, Engineering and Technology and Science and all research institutions for the purpose.

This is the right time for considering this proposal.

—K. L. Joshi
V. C., Indore

Use of Mechanical Aids In Examinations of Gujarat University

Shri J. M. Mehta, Controller of Examinations
and

Shri R. P. Soni, Superintendent IBM Section

Introductory Remarks

Some of the problems arising in connection with University Examinations and their result can be effectively tackled by using mechanical aids. Indeed, the use of mechanical aids will not only minimise human errors but will also ensure (i) speed, (ii) accuracy, (iii) neatness, and (iv) secrecy.

The Gujarat University has since 1962 been employing suitable mechanical aids in its examination work. The number of candidates appearing at its various examinations was above 70000 (exclusive of Matriculation or S.S.C. Examinations), and it was becoming increasingly difficult year after year to tabulate results manually without errors. The time-pressure, too, had its effect on checking routines for detecting errors.

The use of unit-record machines was the only solution that could cope with the demand for ever-increasing numbers and the introduction of the system of internal evaluation, and the time available for preparing results. The University consulted the system advisers of the I.C.T. Ltd., and initially hired unit record equipment, viz. Punching and Verifying Machines, Sorters, a Reproducer and a Tabulator (Accounting Machine) suitable for particular jobs in 1962.

In the initial stages, mechanical aids were employed for : (1) Pre-examination jobs, like (a) Preparation of subjectwise and centrewise numerical statements; and (b) Preparation of roll number of candidates; (2) Post-examination jobs, like tabulation of marks and preparation of result sheets; (3) Post-result jobs like mark-sheets and collegewise copies of the result for each examination; and (4) Various numerical statements regarding percentage of results, subjectwise, and centrewise etc.

For this purpose, it was found necessary to create a separate "data processing" cell in the University office, headed by a Superintendent under the Examination Department. The University staff was also given elementary training in the use of these machines.

At present, the Gujarat University has nearly 85000 students for its March/April examinations; for October examinations, the number is comparatively smaller. These examinations are held at nearly 50 centres and all examinations processing work is now done on I.B.M. Machines.

The System in Brief

The system can be divided into 3 phases depending upon the characteristics of data, time pressure and secrecy : (1) pre-examination jobs like candidates' lists, admission cards, subjectwise and centrewise statements for centres and examiners, statements for press, and printing of question papers; (2) post-examination jobs like tabulation, collation and compilation of results; (3) post-result jobs like (i) Preparation of results for publication, determination of prizes medals, etc. (ii) preparation of mark statements and passing certificates, (iii) collegewise copies of results for each examination, (iv) statistical information of various types; and (v) analysis.

As a first step, it was necessary to redesign the admission form, which was so designed that all the necessary particulars regarding the candidate and his college, his subjects etc. could be read at a glance. A system of 'Numerical Code' for each datum was evolved keeping in view the 80 column punch card. (The numerical code for each datum has to be filled in by the college in the form itself). In order to guide the college office, a booklet giving numerical codes for different examinations and subject-combinations, is prepared and supplied to colleges, to be submitted to the University at least 8 to 10 weeks prior to the examination.

When the forms are received, these are carefully scrutinised both with respect to examination particulars and numerical codes; and the mistakes detected are corrected. The forms are then sent to the data-processing section.

Pre-Examination Work

In the processing section, the pre-examination work begins. Cards are punched on the basis of

information therein and verified on semi-electrical machines. This creates the deck of CARD-I for each examination. Then follows the card sorting on automatic machines according to the alpha of candidates-names - examinationwise. The second field to be sorted is to subject-group, the third mode of appearance (whether in whole or in part or ATKT or under any other ordinance); and, finally, examination centres are sorted out. Cards are then listed on the accounting machine, and lists checked for errors. These cards are given numbers, and the following statistical statements and documents are produced on the accounting machine attached with a reproducing punch and summary cards obtained therefrom: (i) Centre Tabulation, giving various subject-group roll numbers gives a clear picture of the number and subjects offered by candidates at different centres; (ii) Subject-statements give subjectwise roll numbers of candidates at all centres and the mode of combination of different subjects, so essential for planning timetables and indicating copies required of question papers in each subject at various centres; (iii) Exemption-statements showing roll numbers claiming exemption-subjectwise-a statement which is very important at the last stage when absentees are to be thoroughly checked as very often examiners, despite being instructed, put 'absent' against the roll number of a candidate who has not appeared on account of his claiming exemption in a subject. (iv) Candidates' Lists: The deck of Card-I, which has seat-numbers assigned on it (punched automatically on reproducing punch), is passed through the accounting machine, and stencils are also cut simultaneously. Copies as required, can be cyclostyled. The time taken for cutting stencils for examining 10000 candidates is about 3 hours as a normal operation. This saves enormous labour, time and money otherwise taken by typing or proof-reading and printing of rolls. (v) Internal Evaluation Sheets: The Card-I deck is sorted collegewise, leaving the previous sequence unaltered. Information like the college name and seat number, name, and subject-group of the candidate is printed, in duplicate, on blank internal evaluation sheets by passing the deck of Card-I through the accounting machine, collegewise. Both copies are sent to respective colleges, with instructions for entering internal assessment marks in each subject against a candidate. Colleges retain one copy for their record, sending the other copy to the University office. These sheets are

passed on to the Data processing Section, where a deck, called Card-IV, is created with partial constant information from the deck of card-I, the order being kept collegewise. The data on these internal sheets is transferred to appropriate columns in card-IV. These are then listed on the accounting machine and checked against original entries for error. Corrections made, the deck is then filed for the post-examination phase.

This completes the Pre-examination work for an examination. The data Processing Department has then about one and a half weeks time before mark-sheets of University examinations are received. During this time, it engages the machines for creating the Deck-III with partial constant information from Card I. These are sorted out seat numberwise and filed.

During the pre-examination phase, the use of the card Deck-I enables the system to be further expanded without any difficulty for issuing admission cards or Hall Tickets for examinees. These tickets cover the name spelling of the examinee, his optional subject, examination centre, subject combination, code, etc.

Post-Examination Work

University Examination Marks: Final mark-sheets from the Chairmen/Moderators and Examiners come in the prescribed pre-printed forms. They are instructed to write legibly. These final mark-sheets are passed—intact on to the Data Processing Department. Exemption lists and absentees shown therein are thoroughly checked. Totals, too, are checked by comptists on comptometers.

Therefore, marks for each subject are punched seat numberwise in appropriate fields on the card deck III. These are also verified before being listed on accounting machines and are manually compared with original entries made by concerned examiners. Process errors are thus almost completely eliminated, and the Card Deck—III is kept ready for further processing.

Analysis of Results: The card Deck-III, containing records of University examinations, and Deck IV, containing records of college examinations, are merged seat numberwise on the sorter machine. Prior to this process, it is ensured that the partial

constant information on Deck-III and Deck-IV is exactly identical for each candidate by running these cards on a reproducing punch, putting a comparing check.

Deck III and IV are merged together, along with their pre-loaders and process-oriented control cards, are then taken over to the I.B.M. 1620 computer. A computer programme covering all rules applicable to the decision of results in different situations and anticipated mistakes, is converted into the computer language - although a time-consuming job, it is well compensated by gains in accuracy and speed.

Apart from giving the result punched on a duplicate Deck-III, it also gives simultaneously the cards containing seat numbers of appropriate class, for press declaration. At the end of the run, it gives various statistical schedules punched on cards. With a good programme, the time taken by the computer for the result of a candidate is less than a second.

For press declaration, cards are passed to the accounting machine, stencils cut and copies got for distribution.

In the meantime, different card decks are sorted out and merged; mark-statements along with passing certificates are printed by running these cards in the accounting machine. One more run is necessary to print out office registers. This complete deck is sorted collegewise, and, then run again on the accounting machine, which prints copies of results to be supplied to colleges. Many other schedules are also printed, if needed.

Thus, the result processing task is accomplished within two weeks and more than one examination can be processed simultaneously. In addition these are also available immediately :- (i) Collegewise list of absentees for refund of examination fee; (ii) List of successful candidates in a specified format to prepare degree certificates; (iii) List of successful candidates with earned credit marks to be taken into consideration while deciding the class at the degree examinations; (iv) List of candidates whose results have been withheld; (v) Various statistical schedules according to centres, colleges or sex.

Some Advantages of Mechanisation

The following are among the more distant advantages of computerised mechanisation of examination work : (i) Accurate result-processing in a very

short time; (ii) The cost per candidate is very low compared to manual processing; (iii) The candidates' list (Rolls) can be prepared by cutting stencils on the machine, thus eliminating enormous labour of proof reading and printing in the press and hence economy. (iv) Various statistical schedules, and printing of mark statements, passing certificates, office registers, college copies, etc. can be had immediately with the declaration of the results (v) Mark statements can be distributed to candidates within a day or two. (vi) Secrecy can be maintained. No individual knows about the result before it goes to the press. (vii) All possible errors are rectified in time. (viii) The time spent on determining the result on a computer is less than a second per candidate. (ix) It is easy to expand or revise the system, if any change is made in rules of examinations or the standard of passing, etc.

Over and above these advantages in the examination work, functions like stock accounting, press, labour accounting, salary bills, financial accounting, can also be performed. The annual cost of maintaining a Data Processing Department is thus compensated for by diverting use of the machine to other functions.

Just Released !

CRISES IN INDIAN UNIVERSITIES

Partly Written and Edited by
Dr. G. S. Mansukhani
Development Officer
University Grants Commission

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HIGHER EDUCATION IN LANKASIA*

L. G. HEWAGE

"To what extent is new knowledge on education reaching those directly responsible for, and professionally concerned with, the educational services of the region?"

"Although my main concern in the investigation was related to education at the first and second levels, University education (third level) was not completely excluded from the survey. As such, I also tried to find out to what extent new growing knowledge relevant to university education was reaching the university personnel, namely teaching staff, administrative staff, and the student population."

—Author

Most universities of the region have a department or school or faculty, or institute of education, where education is studied as an academic-cum-professional subject. University education is included in courses offered by these departments. Recent research findings and current thinking related to problems in university education are studied invariably. Unfortunately, this new knowledge does not reach all the professors, lecturers, administrators, and students at universities, unless a special provision is made.

What is new knowledge?

There appear to be several favourable factors that contribute to the right understanding of any educational problem. Now what are these factors that contribute favourably to the right understanding of any university education problem? The answer will, perhaps, help us define new knowledge.

Direct personal experience of research work and by trying to understand and solve university problems: According to this factor, an experienced university professor, lecturer, or an administrator—even a student leader—may be better qualified to solve an university problem better than many others who have not had such prior experience.

New ideas resulting from active participation in the process of group discussions: Planning and implementing a community education project may provide opportunities for such discussion at all levels as also Seminars and conferences.

Insight resulting from analytical and reflective thinking in order to find a solution to the problem one is concerned with: not every one appears to take the maximum benefit from one's potentialities in intellectual abilities, due mainly to wide-spread ignorance of nature, functions and potentialities of the human mind. If one can cultivate the habit

of understanding one's own mind, one will be able to find it a rich source of new ideas.

A keen interest in understanding and solving human problems for the welfare of all: This is a basic requirement even for favourable operation of other factors. A limited and selfish interest in one's job may not necessarily mean an interest in solving problems for the welfare of all.

The last but the most important is the search for new knowledge related to a problem: This new knowledge may come from others interested in the same problem as a result of any one or more of the above factors operating favourably. It may be either new ideas, research reports, new insights, or any such new knowledge received from others.

All these factors are inter-related and interacting. However the last appears to be most effective, particularly if the other conditions are also operating favourably. New knowledge in this study means the cumulative cognitive result of one or more of the above factors, operating singly or collectively, in an individual.

The University curriculum is no longer considered as an unchanging, pre-determined body of knowledge communicated from one generation to the other intact. It has to be sensitive to these changes. That is why we speak of the curriculum development committees or curriculum development centres. These new organizations and institutions study recent trends in relation to the local needs, in order to suggest appropriate curriculum changes for experimentation, evaluation, and adaptation by fast changing universities.

This is an ongoing process which appears to be not realized by most university authorities. This neglect, in turn, develops a resistance to new knowledge. The impact of the Taxonomy of Education Objectives suggested by Bloom and others and conse-

*means Asia with special emphasis on Lanka (Ceylon)

quent developments in the process of curriculum development, are well known to most educationists today, although they appear to be ignored by most university personnel of Lankasia.

The problem of teaching techniques, too, is investigated as scientific research and new techniques of communication are fast developing, while most universities still follow the same old lecture method. Modern trend in this field, particularly after the introduction of Programmed Instruction, are too good to be entirely ignored. The rich source of information from university teachers who have experimented with new methods of counselling, guidance and such other student personnel services, have to be explored, if we are to solve student problems.

I may mention one more very significant area of knowledge neglected by most universities in the Asian region. University students and teachers are generally drawn from among the most 'intelligent' section of the human race, who should lead the human race towards a peace-loving world community. It is they who should know how to construct defences of peace in the minds of men, if the human race is to be saved from a nuclear holocaust. Therefore, it is they who should be most concerned about Unesco, which was founded for the purpose of building defences of peace in the minds of men.

A Challenge to University Educators in Lankasia

All problems, including these, related to university education, may be considered as the result of innumerable, perceptible and imperceptible conditioning factors operating in different ways in different relationships. Understanding and solving problems, therefore, means understanding these complex processes and trying to modify them to produce desired results. Each problem in university education is also the result of such conditioning factors operating together in different relationships. Therefore, those concerned with university education must try to understand the true nature of the problems before and during their solution.

Need for new knowledge

The very existence of universities depends on the basic assumption that communication of new relevant knowledge brings about some desirable

transformation in those who are at the receiving end of this communicating process called education. Relevant knowledge is also expected to bring about attitudinal changes in them. Some knowledge or experiences resulting from knowledge may also provide new skills to the recipients of knowledge.

All these bring us to the inevitable conclusion that university education will provide new perspectives, new values, new attitudes, and new skills, will lead to a better understanding and solutions of university problems. If these assumptions are valid, then those who are well informed of the new relevant knowledge on education will be equipped to solve university problems better than those ignorant of it.

This reminds us of that oft quoted and still valid statement made by Sir John Adams about half a century ago regarding the teachers teaching John Latin. What applied to elementary and secondary education then applies also to university education today. If a lecturer knows his Latin well, he is generally accepted as a competent person to teach John Latin. Relevant knowledge now abundantly available to educators appear to prove that knowledge of Latin alone does not necessarily make a good lecturer in a modern university.

The role of a university lecturer is not limited now to the imparting of new knowledge only; today's university students are not mere passive listeners to the lectures delivered by the professors. University deans, professors, lecturers, tutors and administrators have to take vital collective decisions affecting the whole system of university education. Their knowledge will determine the quality and quantity of higher education. If they are kept well-informed of current developments in the theory and practice of university education, the decisions they take and the knowledge they bring to bear on group thinking processes, will be quite different from those who are ignorant of this new knowledge.

What knowledge is relevant?

A few areas of knowledge relevant to university education, may be mentioned to make the foregoing observation more meaningful to those who are not aware of the recent trends in this field of knowledge. Population explosion, knowledge explosion, and even the 'education explosion' resulting

from a world-wide democratization of education have all contributed to these changes necessitating corresponding changes in the aims and objectives, too.

Coming back to the statement made by Sir John Adams, let us consider whether we can still say that an adequate knowledge of Latin will make an efficient university teacher. A good teacher must know not only John in addition to his knowledge of Latin: he must also know the nature of relationships of all the conditioning factors that create them. Otherwise, university teachers may continue to be "the blind leading the blind" perhaps until there comes a day when leaders and the led may be compelled even to change their places. Shall we not avoid such a condition at any rate? If so, how shall we do it? This is the challenge before the University educators of Lankasia.

Since this study was made, two useful and relevant books, "Training University Administrators" by Henderson and others and "Teaching and Learning, An Introduction to New Methods and Resources in Higher Education" by Mackenzie and others, appear to recognise the problem. The first study has been devoted mainly to the problems of university administration. Nevertheless, some suggested solutions may help Lankasian universities to evolve a realistic approach. However in this study, only a part of the complicated issues confronted by leaders of Higher Education of this region appear to have been taken into consideration. It does provide a very useful "programme guide with illustrations of many innovative experiments in the field of university administration in various countries. It is hoped that this Unesco guide will help those concerned with the determination of policies in higher education."

New methods of teaching and learning have been introduced in some detail in the second one written by MacKenzie and others. However, even there, the problems of student unrest and the nature and scope of the community-campus-relationships urgently needed in the universities of contemporary Lankasia, have not been adequately considered. This book is a result of a study by the Joint Steering Committee created in 1959 by the Unesco and the IAU for the purpose of carrying out a series of

detailed studies of important problems affecting the organization, operation and functions of institutions of Higher Education in the modern world. A meeting of experts on Teaching and Learning methods in university institutions held in 1968 at the Unesco House, Paris, resulted in the present publication. Following concluding remarks of the Director-General of the Unesco and the president of the IAU found in their joint preface to this publication indicates its nature and scope:

"Although the volume deals with many matters on the frontiers of educational research and development it is not addressed primarily to the specialist. By reviewing new potentialities for teaching and learning in the broad context of their complex and changing socio-political environment, and by examining the application of modern management concepts to Higher Education the authors have indeed succeeded in producing a volume likely to be of interest and practical value to all who today participate in shaping the policy and directing the affairs of university institutions."

The theme of the 32nd session of the International Conference on Education held in Geneva (1970) by Unesco and IBE was "*Improved effectiveness of educational systems, particularly through the reduction of wastage at all levels of instruction*". Nature and incidence of wastage in higher education is also one of the subjects suggested for further study by Unesco and its regional centres.

Following may be suggested as some of the solutions to the problem at this initial stage :-

- (1) A scientific survey in the region to see whether the problem presented here does exist at all, and if it does, to find out its nature and extent.
- (2) Experimental studies to see whether a course in university education can, in fact, bring about an observable and desirable change of attitude in the university personnel, as suggested in the present study.
- (3) Experimental studies to test the validity of a variety of courses and projects on university education designed to be different from one another in the content and method.
- (4) An action programme to formulate, implement, evaluate and popularise university courses and projects on university education, in all the universities of the region.

(5) A regional conference of university lecturers and professors of education to consider effective ways and means of bringing new knowledge on university education to faculty, students, administrators, and community leaders who are concerned with higher education.

(6) Establishment of an Institute of Higher Education to offer courses to university personnel on the theory and practice of university education and the recognition of such courses as a precondition for appointment, confirmation and promotion of university lecturers and administrators. An institute of that nature can train university teachers and administrators while organizing periodical workshops and seminars on selected university problems of the region in particular. The Asian workshop held in Hongkong on Higher Education (Aug. 1969) may be mentioned as one such useful initial attempt in the right direction. The Unesco sponsored Institute of Educational Planning and Administration in New Delhi, Regional Centre for Education in Bangkok, National Institute of Educational Research in Tokyo, Teacher Training Institute in Quezon City, alongwith the Asian Institute of Higher Education in Singapore, may all jointly plan a major project to study this problem if the concept of life-long education is to be translated into action in this region.

“QUOTE . . .

Prof. N. C. Joshi, Hastinapur College, in “Educating the Educators”: Teachers, on their part, look upon teaching as a job for which the pay cheques is the only reward.”

Students, on theirs, look upon teachers and teaching as a check on their rewards!

The same Prof. Joshi: “So great is the lust for a degree that no price is too high for getting it.”

Not even unemployment!

There’s a book written by Parkinson and Weingartner, entitled: “Teaching as a subversive Activity”.

No wonder students don’t want to engage in it!

“News from Nowhere”—a book Nicola Tyrer of Evening News, thinks “is a Victorian Utopia novel featuring a society where there is no money,

no book culture, pollution-and where everyone is beautiful because they are healthy and happy.”

Must be a translation of our own Dushyant-Shakuntala!

Aleson Truefitt of Evening Standard (on the best book of the year) thinks: “The account of Tolstoy’s own school (Tolstoy on Education) at Yasnaya Polyana is proof that some of us have indeed forgotten what education is all about.”
Leo Tolstoy had a long memory; ours is short like public’s!

A statement:

“No one can deny that the language problem in India is extremely complicated and there’s no solution which will be acceptable to one and all.”
Unless it is equally complicated, like the three language formula!

Another statement:

“The main complaint of most students who physically or mentally drop out is not that the work is too hard, but that what is being taught is irrelevant.”

Don’t they know better?

Lord Davidson Gottlieb in the Fullbright Newsletter, spring 1972: “Some states such as California have one third of the students ‘drop out’, this is too large a percentage of failure and it’s time to re-examine our educational values.”

To bring them in line with the standard of the drop-outs?

Paul G. Leonard in Education Quarterly:

“There’s no reason why we should not in an organised way translate books from other languages.”
Even doing it in a disorganised way will work, as long as the translation done is organised,

“The Education Commission describes Education as the new instrument of change.”

For better or for worse!

“The educational system today is basically what it was in 1940.”

And the education imparted through this system is basically what it was in 1910!

If quality is to be gained in an educational system constant reappraisal of practices is essential.
What about a constant reappraisal of precepts?

... UNQUOTE”

W. D. Miranshah

CONVERTING SCIENTIFIC BREAK-THROUGHS INTO SOCIAL GAIN

M. S. Swaminathan

If all the scientific breakthroughs in various agricultural universities ought to be converted into production advances, our educational aims must be radically re-structured. I would like to take each age group separately to indicate how we can generate a new educational chain to accelerate our economic progress.

Pre-Primary and Primary Education

The young human being learns to move and communicate within 12 months. 80 % of his intellectual development is completed in the first five years: 40 per cent in the first and 40 per cent by the fourth year-end.

Education is through play. For the child it is serious business, his main function and his way of learning. The child works very hard, for it would be observed that he is exhausted after a hard day's play.

The ideal, pre-primary curriculum is everything that the teacher can take up. The child's natural environment is fully utilised, with special experiences devised to aid his learning.

The following principles which emerge from early childhood education have an immense bearing on the idea of education through work:

- (1) The learning process is related to the child's self-activity. Essential ingredients are like free choice, a skilled teacher's guidance, problem-solving situations and tasks graded to the stage of development, a permissive environment, stimulus and challenge to exploration.
- (2) Corollary: there is no such thing as teaching; there is only learning. The "learning environment" and the teacher between them can stimulate or stifle learning.

(3) Education involves totality—the child is learning *not* at set times, but all the time.

Play gradually turns into work in two ways. Firstly, the activity is undertaken with a definite objective. Secondly, the activity is no longer freely selected but is socially determined and, in practice, set by the teacher. A socially productive and useful activity can be the agent of education—this is another way of expressing the intuitive essence of Basic Education.

The book-centred village school, which denies the student competence in real tasks, is responsible for the absence of a link between education and productivity. What a broad field could be opened up if these daily tasks were used as instruments of education.

With simple tools, such as a soil testing kit and nutritional seed kit, a whole new world can be opened. Studying birds, identifying weeds, detecting alkalinity, harvesting water, and preventing damage by rats and pests, both on and off the field, would all have immense educational and practical value.

Secondary Education

The percentage of rural drop-outs, mostly in classes I and II, is very high. A farmer's attitude to his children's education is conditioned by: (a) his interest to have help in farm work; (b) his fear that education may lead them to abandon him; and (c) his desire that his sons should not have to struggle like him, and become instead "white-collar" workers.

Agriculture as a subject is taught in secondary schools in certain parts of the country for high school examinations. Also, it is accepted as a basic craft in some basic and post-basic schools.

Agriculture, as taught and practised now, suffers from two defects. First, it is not related to the daily life and economy of the surrounding community; and, second, it is technologically out of date. A new outlook for school agriculture education would, therefore, imply that we set ourselves some of these aims: (a) to make primary and secondary education in rural areas more relevant to daily life; (b) to increase the component of practical work, including manual labour, in education; (c) to introduce

programmes which enable students to earn while they learn and reduce wastage in education resulting from economic causes; (d) to provide practical avenues for a study of the biological and social environment at a suitable level and to provide material and tools for such a study.

To begin with, such an approach can best be implemented in schools, where agriculture is already being taught in some form or can easily be introduced—that is, basic and post basic schools, which teach agriculture as a craft, middle and high schools offering agriculture, and other progressive rural institutions. The work could be undertaken in areas immediately surrounding the universities. The co-operation of both the State Department of Agriculture and of Education would be necessary. The agriculture extension personnel could come both from the Department of Agriculture and from the Agricultural Universities. Each university, or major agricultural research institution, can assume the responsibility of providing technical help to at least one such school.

Projects chosen must be of both economic and educational value, and could be of various kinds. These could be operated in some of the following ways.

School Projects

First, a simple project would be necessary in order to create confidence in the new approach. A demonstration of practical and viable agriculture at school has to be made first. It should be of an easy type which can attain success. The profit from the completed project should be earmarked for school improvement.

Individual projects undertaken by pupils at school

The profit from such projects should accrue to the student concerned. The teacher should use them for teaching purposes only.

Teachers will have to be trained in methods of individual and small-group instruction to handle such projects successfully.

Individual projects undertaken by students at home on their own land, with the guidance and support of school teachers and extension personnel

To involve parents, they may be asked to supervise and guide the work of their children. Also, if time

spent is added to school attendance, it will create further interest. The economic value of work so done will encourage parents to keep children at school.

Group or class projects to be undertaken in schools

These can be arranged on a competitive basis and for cash profit. The best projects should receive, besides whatever they earn, some additional recognition in the academic sphere.

There are various ways in which such projects can be made educationally meaningful. Without attempting to enumerate them, a few examples may be suggested :

(i) Use for teaching of basic skills such as reading and writing through descriptions of work done.

(ii) Use for teaching skills of record keeping, observation, comparison, experiments and other aspects of scientific thought.

(iii) Use for teaching practical skills involved and relationship of technology to daily work.

(iv) Problem-oriented studies in science and social studies beginning with the immediate problems suggested by the projects and expanding into studies of biological and social environment.

(v) Making use of the various mass media, sources of information, resource personnel, etc.

Depending on the location, projects may include vegetable production, poultry keeping, seed production etc., but must involve skilled work, so that the learning process gets stimulated.

Teachers should be provided short term orientation courses, which must include : (a) Knowledge of up-to-date subject matter content ; (b) Practical skills in the concerned areas ; (c) Techniques of small-group and individual instruction ; and (d) Using agricultural projects for teaching and study in correlated areas, project method, etc.

The following kinds of help will be required from agencies outside the school : (a) Technical guidance from extension workers of the Department of Agriculture, Universities, and Research Institutes ; (b) Necessary inputs from the Departments of Agriculture, such as soil testing kits, pesticides, seed, etc; (c) Suitable teaching aids and study kits from the Department of Education ; (d) Suitable literature and appropriately devised programmes from the mass

media, such as radio and film, newspapers, journals, etc ; (e) Training of teachers which is the most crucial need for ensuring the success of the programme ; (f) Community support through provision of land, tools, interest and involvement of local authorities, help of parents, and supervision and part-time teaching by farmers and other members of the community.

University Education

Making work-experience an integral part of University education would help generate a greater sense of self-confidence in the student. One approach to this aim may lie in making the in-built provision in our developmental projects of student participation.

Student work should not be regarded merely as social service or training but must become a distinctive and advantageous part of the project. Students can become a source of great strength and dynamism to the project, if they are properly trained and deployed.

Every university student must be employed for two months in a year in an appropriate Plan Project. A semester system of course-curriculum organization will help. The summer vacation may be restricted to one month, so that the formal teaching programmes do not suffer.

The assignment of students to various projects will need proper planning by University and Project authorities. It will be based on the principle of learning through work and would hence involve a planned matching of the field of study with the field of work. Thus, students of History and Archaeology may work for the India Tourism Corporation ; of Zoology and Medicine, in the family planning and preventive medicine programmes ; of agriculture, Botany, Chemistry, Physics, Economics, Engineering and Home Economics, in the agriculture development, and nutrition programmes ; and of nearly all fields, in pre-primary, primary and secondary education programmes.

All scientific institutions by Central and State Governments can provide opportunities to students to work in specific projects, and can give a great fillip to the cottage industry movement, by supplying detailed manufacturing drawings of new implements, machinery and processes. With these drawings, University students in engineering may be in a posi-

tion to help village communities in starting small scale industries; since rural credit is becoming more easily available now.

I am enthusiastic about the educational advantage of such a total involvement of the student community in developmental work, because I have had personal experience of the benefit of such an opportunity. In 1946, there was a serious rice shortage in the then Madras State. At the suggestion of the late Dr. B. Viswa Nath, then Director of Agriculture, the State Government decided to distribute fertilizer free to rice farmers of Palghat, Walluvanad and Kasaragod districts during the monsoons. The aim was to increase rice production by a hundred thousand tonnes through the application of nutrients. All my fellow students and some of the staff members of the Agricultural College at Coimbatore were pressed into service for two months. Well defined tasks were allotted to each student. Unfortunately, there was a very heavy rainfall that year ; much of the fertilizer applied went to the Arabian Sea. But this experience gave us an insight into practical agriculture which no book could have ever done.

Our 16 Agricultural Universities, 71 Agricultural Colleges and 21 Veterinary Colleges enrolled 43,350 students in agricultural and 6,222 in veterinary subjects during 1970-71. If these 50,000 students are involved for two months every year in Dryland Farming, Multiple cropping etc., the total annual financial outlay amounting to Rs 2 crores could come from 10% of the recurring outlay in each agricultural developmental project. This amount can be found by consequent readjustments in staffing patterns.

Adult Education

In spite of every effort, the number of illiterates in our country increased by 53 million during the period 1961-71, although literacy growth showed a rise from 24.03 in 1961 to 29.34 in 1971. There is need for new skills, particularly technical skills. New approaches to adult education must capitalise on this new demand.

Agricultural polytechnics as Suggested by the Education Commission :-

These can be organised for adult farmers wishing to improve their skills and knowledge.

LETTERS

AN OPEN UNIVERSITY FOR DELHI

Sir,

Student enrolment for higher education has been increasing at the rate of over ten per cent per annum. There is no wonder that the phenomena of student explosion has put severe strains on the resources of college and universities all over the country. It is not a problem confined to Delhi alone, although at Delhi its manifestation may be far more acute than elsewhere. As such, I don't understand why the idea of an open university is advocated for Delhi alone. The problem of numbers is a national problem and it has to be tackled as a national problem on a national scale.

It does not mean that I am opposed to a pilot project in the form of an open university being launched at Delhi. Far from it. I would be happy if an Open University is started at Delhi. What I, however, do not like is the assumption that Delhi is India and if the problem at Delhi is solved why bother for the whole nation. Along with the pilot project of an Open University at Delhi, I would also suggest the launching of similar pilot project at Calcutta, Bombay and Madras. I think that on the ground of student explosion alone Calcutta deserves to have an Open University since I am told that Calcutta University has the largest student population in the country.

I would advocate an Open University not only on administrative and economic grounds but on

academic grounds as well. As a teacher with more than fifteen years of experience of teaching, I have come to the point of view that the lecture mode of instruction is not very effective as a tool of education. In our social context where we have a considerably large number of first generation learners with low motivation for learning and also a sizable number of lecturers who continue to lecture indifferently in a take-it-or-leave-it style the lecture mode of instruction is not at all effective. A lecture mode of instruction presupposes that the learner is sufficiently motivated.

An Open University will siphon excess students away from colleges and universities and also supplement the lecture mode of instruction in the educational institutions. Viewed from this angle an Open University has also to be a pioneer in fabricating better tools of education, the ultimate aim being to involve the learner in the process of learning. At the moment the greatest challenge that I feel in my class is the non-involvement and serene indifference of the first generation learners in the process of learning.

As a teacher and as a father of three children I would, however, pray that An Open University at Delhi would not make me jobless. Has not Arthur Clarke said: "Education through television would make teachers and schools obsolete"?

Dr. N.P. Singh
Rajdhani College
University of Delhi

AN ERROR*

Sir,

I may bring to your kind notice a mistake in printing in your Magazine "University News" on page 6. Under the heading "Guru Nanak Examination reform initiated," in line No. 8 the word 'not' may be deleted. This should be read as 'The principal of a College will be the sole Incharge of the University Examination and not as published: "The principal will not be the sole incharge in the University Examination."'

This has reference to your issue for the month of March, 1972.

Yours faithfully,
R. S. Oberoi (Dr.)

Principal,
Guru Nanak College, Batala
15th March, 72

*Which the editor sincerely regrets.

BRILLIANT

Sir,

I was happy to see new features brilliantly present in the University News since you have taken over as its Editor. Congratulations.

My two articles were published in The Indian Express on educational matters. I give on a separate sheet (attached) a few sentences from them for inclusion in your feature, Naughty Quotes. I hope you would like them.

Yours sincerely,
Navin Chandra Joshi
Head, Department of Commerce
Hastinapur College, Moti Bagh,
New Delhi-21

Thank you—two of them have been included.
—Editor

Reviews

A Bulletin of current Documentation: The Association of Commonwealth Universities.

The Bulletin is rather alert about changes taking place all around, and captures—in significant detail—most of them which have some meaning for, or application to, the institution called University.

The Bulletin uses, while commenting on or reporting things happening in various universities, authoritative source materials like official reports and seminars.

Among other things, it discusses latest proposals for altering, or replacing, existing systems—whether in teaching or learning—apart from dealing authoritatively with such statutory bodies as U.G.C. of London, and setting forth topical thoughts on educational management.

It is highly readable, informative, and handy. Condensed within 30-odd pages, the Bulletin is a commendable effort in the field of current documentation.—W.D.M.

Dani's Directory of University Books and Booksellers 1971-74. Compiled and edited by N.M. Dani, Nagpur: Daulat Publications, 1972. Rs. 40/-

Claimed to be the first of its kind in the history of publication in the country, Dani's Directory of University Books and Booksellers, 1971-74 contains a wealth of useful information. Shri Dani thought of compiling this Directory when, as a bookseller, he was faced with the problem of 'heaping a dead stock of books which ceased to be in the syllabus'. The result is a valuable reference tool which can conveniently be divided into three

parts: universities book, trade and books in English and Hindi Literature. The section on universities gives a complete list of universities and institutions deemed to be universities; their State-wise distribution and District-wise jurisdiction. The section dealing with the book trade lists college booksellers and publishers in India—State-wise, university-wise, town-wise, and locality-wise; prescribed publishers and distributors in India; foreign publishers and their agents in India; and exporters of Indian books. The last section concerns books in English and Hindi Literature prescribed and recommended by Indian universities. Each entry gives complete information about the title in the following order: author, period of his life, title, publisher, edition, pages, price and the universities which have prescribed them for different courses and years. The Directory also provides additional information about critical works by various authors referring to original authors for both English and Hindi Literature; as also Pen names and pseudonyms of both Hindi and English authors.

The Directory is, thus, encyclopaedic in scope and provides information which is not normally available in many of the reference books. It also makes possible a comparison of the syllabi for the different courses in these two subjects in Indian universities and thereby provide an index, however rough, to the standards in different universities.

The Directory was compiled in 1969-70 and on that count it cannot be said to be very up-to-date. Also the chapter listing districts arranged in each State topographically appears to be out of place. Similarly, the chapter listing All-India districts alphabetically arranged and referring to the universities governing them is nothing but duplication of the information contained in the chapter, "District-wise Jurisdiction of Universities." It is, therefore, hoped that, if and when a subsequent edition of the Directory is brought out, it will

be shorn of its irrelevancies, better organised and brought up-to-date.

The publication of such a directory is, however, a welcome event that deserves notice. It is an important source of information for teachers, librarians and members of the book trade.

**Indian Institute of Technology,
Bombay.**

Advertisement No. 711/72

Applications stating particulars of qualifications, experience, age, previous employment, salary drawn and scale etc., to be addressed to the Registrar, Indian Institute of Technology, Bombay, are invited for the post of Senior Auditor on or before the 20th April, 1972. Enclose Crossed Indian Postal Order of Rs. 3/- (75 Paise for Sched Caste/Tribe candidates). Applications already in Government/Semi-Government organisations and Educational Institutions must apply through proper channel. Preference will be given to candidates belonging to Scheduled Caste/Tribes.

Scale: Rs. 270-15-435-EB-20-575

Qualifications & Experience: (a) Graduate of a recognised University. (b) Should have adequate experience in handling accounts and audit work in a Government Accounts &/or audit office or in an Educational Institution or in a business organisation of repute. **Desirable:** Passing of an Accounting Examination, such as subordinate Accounts Service, costing etc.

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CLASSIFIED ADS

Berhampur University,

**University Campus ; Rengabanda
Berhampur-7 (Gm.)**

ADVERTISEMENT

Application are invited in the prescribed form (7 copies) obtainable from the Office of the undersigned on payment of an application fee of Rs. 1.50 paise in person or by postal order in favour of Registrar, Berhampur University along with a self addressed envelope measuring 22x10 cms. affixed with postage stamps worth 0.85 paise (including Refugee Relief Stamp worth of 0.50 paise) for the post of Professor in the Post-Graduate Department of Chemistry of this University in the scale of pay of Rs. 1100-50-1300-60-1600 plus usual Dearness Allowance as admissible by the University from time to time.

Qualification and Experience

The candidate shall have :

- (i) A good academic record.
- (ii) At least 5 years experience as a Reader preferably with experience of teaching in P.G. Classes and a total teaching experience of not less than 10 years.
- (iii) Research Degree or outstanding published work of equivalent standard.
- (iv) Ability to guide research work.

The applications duly filled in should reach the undersigned on or before 20th April 1972. Candidates who are in service should apply through proper channel. Applications received after the due date will not be considered.

Sd/- R. C. Raiguru,
Registrar

**The Maharaja Sayajirao University of
Baroda**

NOTIFICATION NO. 28

Applications are invited on the prescribed forms for the following posts :

Faculty of Social Work

1. Readers in Social Work

Faculty of Law

2. Readers in Law
(Constitutional Law-International Law)
3. Reader in Law
(Mercantile Law)

Faculty of Technology and Engineering

4. Workshop Superintendent

Scale of Pay (1) Reader 700-50-1250
(2) Workshop Superintendent 700-50-1250

Plus D.A., P.F., H.R. and Gratuity benefit as per rules.

Prescribed application forms and details of qualifications will be available from the Registrar on pre-payment of Crossed Postal Order of Rs. 1/- only.

The application form should be accompanied by Crossed Postal Order of Rs. 7.50 and should reach the Registrar on or before 25th April 1972.

Only the most suitable candidates shall be called for interview.

K. A. Amin
University Registrar

**M. S. University of Baroda
Baroda ; 15th March, 1972**

Indian Institute of Technology, Bombay

P. O. I.I.T., Powai, Bombay-76

Advertisement No. 710/72

Applications are invited for the post of **PATHOLOGIST** in the Hospital of the Institute in the prescribed form obtainable from the Registrar, IIT, Bombay, on request accompanied by self-addressed envelope (23 cm x 10 cm). Candidates from abroad may apply on plain paper. Candidates employed in Government/ Semi-Government Organisation or Educational Institution must apply through proper channel. Last date for receipt of application is 15th of April, 1972.

POST : PATHOLOGIST

SCALE OF PAY : Rs. 350-24-500-30-590-EP-30-830-35-900 plus NPA @ 33 1/3% of pay subject to a minimum of Rs. 150/- p.m.

ALLOWANCES : D.A., H.R.A., C.A. etc. admissible as per the rules of the Institute.

QUALIFICATION : M.B.B.S. of a recognised University, with Post-graduate degree or Diploma in Clinical Pathology or considerable experience in Clinical Pathology.

Indian Institute of Technology, Bombay

P.O. IIT Powai, Bombay-76

Advertisement No. 708

Application are invited for the following post from suitably qualified persons to work on the ADGES Project (Defence) in the Electrical Engineering Department I.I.T. Bombay. The posts are temporary for a duration of 3 to 5 years in the first instance and likely to continue.

Professor : Scale : Rs. 1100-50-1300-60-1600

Assistant Professor : 700-50-1250

Lecturer : 400-40-800-50-950.

plus allowances such as DA, CCA etc. as per rules of the Institute.

Applicants should have high academic qualifications. Research/development experience in Electrical/Electronics Engineering and allied fields with special reference to any of the following areas.

- (a) Antenna Engineering
- (b) Signal Processing
- (c) Computers
- (d) Simulation

A candidate will be considered for any of the above mentioned posts, commensurate with his ability, qualifications experience and contribution in the related field. Higher initial pay is admissible to specially qualified and deserving candidate.

Applications from persons in India should be made on the prescribed forms obtainable free of charge from the

Registrar of the Institute by sending a self-addressed envelope of 23 cm x 10 cm size.

Persons abroad may apply on plain paper (3 copies) giving an account of their academic and professional records, list of research publications, field of specialisation etc. They should also give names of three persons who are acquainted with their academic activities.

Completed applications should reach the Registrar, I.I.T. Bombay, P.O. IIT, Bombay-76, by 15th April, 1972.

Advertisement

**SHIVAJI UNIVERSITY, KOLHAPUR
(Maharashtra State)**

Applications are invited for the following posts in the University Post-Graduate Departments :-

Department	Posts
English	2 Lecturers 1 for Linguistics 1 for Literature

Economics 1 Lecturer Econometrics/
Mathematical Economics

Geography 1 Lecturer Economic Geograph-
y or Urban Geography

Pay Scale :

Lecturer : Rs. 400-40-800-50-950

Details of the qualifications etc., alongwith prescribed form of application for the post can be had from the University office.

Applications stating particulars regarding the date of birth, qualifications, experience, present employment etc., should reach the Registrar, Shivaji University, Vidyanagar, Kolhapur-4, on or before 20th April, 1972.

Kolhapur-4.

Dated : 24-3-72

Usha Ithare
REGISTRAR

**Sambalpur University : Sambalpur
Advertisement**

Applications in the prescribed forms with attested copies of mark-sheets and Certificates of All Examinations passed are invited for the following posts for the University College of Engineering Burla.

I. Sl. No. Name of Prof. Reader Lecturer
the Deptt.

- | | |
|---------------------|------|
| 1. Electrical Engg. | Four |
| 2. Mathematics | one |
| 3. Physics | one |
| 4. Chemistry | one |

(N.B.:-out of four posts Lecturer in Electrical Engg. one will be in Electronic Engineering).

Age of Retirement

(a) Sixty years of age.

(b) Professors may also be appointed on contract basis for a period of five years or till the attainment of sixty years of age which ever is earlier in case of suitable candidates.

II. Scale of pay :

1. Professor Rs. 1100-50-1300-60-1600.

2. Lecturer Rs. 400-40-800-50-950

III. Qualification required (Lectures in Electrical & Electronic Engg.)

(i) A Second Class Bachelor's Degree in the subject.

(ii) Preference will be given to a candidate having master degree in the subject.

IV. Qualifications for the Post of Professor in Mathematics, Physics & Chemistry

(a) A Professor shall have :

- (i) at least a Second Class Master Degree in the subject with 48% Marks.
- (ii) High Research qualification preferably a Doctorate.
- (iii) Capacity for conducting and guiding research work.
- (iv) Teaching experience for at least ten years in a College or a University with at least five years experience in Post-graduate Teaching.

(b) Qualification desirable :

- (a) Professor of Mathematics
- (i) Specialisation in problem of Elasticity or Fluid mechanics and Dynamics.
- (b) Professor of Physics
- (i) Specialised in solid state Physics or Electronics.
- (c) Professor of Chemistry
- (i) Specialised in Inorganic or Physical Chemistry.

All the above Posts carry usual dearness allowance as would be sanctioned by the University from to time.

Seven copies of the application forms will be supplied from the University Office to each candidate in person on cash payment of Rs. 2/- (Rupees two only). Candidates intend to receive their forms by Post are required to send (a) Cross Indian Postal order of Rs. 2/- payable to the Finance Officer, Sambalpur University, Sambalpur and (b) A self addressed envelop (23 cm x 10 cm) with Postage stamp worth Rs. 2/- affixed to it with the words "APPLICATION FORM FOR THE TEACHING POSTS IN THE SAMBALPUR UNIVERSITY" Superscribed on it. Money order/Cheque will not be entertained.

The last date of receipt of application in the Office of the University, Budhraja Hills, Sambalpur (Orissa) is 1-5-1972.

All communications should be addressed to the undersigned by designation only Registrar

Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, (M.P.)

Advertisement No. 2/72

Applications are invited, on the prescribed forms for the following posts —

- (1) Registrar : One (Scale of pay Rs. 1100—50—1400)

Qualifications and Experience : At least a good second class degree of recognised University. Administrative and Academic Experience of at least 5 years in the University, a teaching or research Institute or in a Department of Central or State Government, Scientific and Technical Institutions.

Desirable: Ability to work in a team demonstrated ability of leadership and personnel management.

- (2) Senior Scientist : One—Temporary (Scale of Pay Rs. 1000—50—1500) (Under 'ICAR's—All India Coordinated Research Project on Poultry for Eggs)

- (i) Doctorate in Animal Genetics (Relaxable to M.Sc. Degree or equivalent Post-graduate qualifications in the case of candidates with exceptionally distinguished record of productive research).

- (ii) Ten years' research experience in poultry breeding as evidenced by published work.

- (iii) Ability to plan, organise and guide research in poultry breeding
- (3) Regional Coordinator : One Temporary (Scale of pay Rs. 700—40—1100) (Under the National Demonstration Scheme or Major Food Crops—financed by the ICAR).

- (i) Master's degree in Agronomy/ Soil/Engineering/Entomology or extension or any related discipline or field or an equivalent post-graduate qualification.

- (ii) Five years' experience of research or extension in Agriculture as evidenced by published work out of which atleast three years should be related to field work preferably to crop production.

- (iii) Ability to plan, organise and guide and coordinate the project in the region.

- (iv) Experience of leadership and capable of undertaking extensive tour.

- (4) Associate Professor of Fundamental Genetics : One Temporary, (Scale of pay Rs. 700—40—1100)

M.Sc. (Ag.) Botany; M.Sc. (Ag.) Plant Breeding and Genetics M.Sc. Genetics/Associate I.A.R.I. in Botany or Genetics and Plant Breeding; Ph.D. Genetics and Plant Breeding or Ph.D. Microbial Genetics and Biochemical Genetics or Quantitative Genetics.

- (5) Food Scientist : One Temporary (Scale of Pay Rs. 700—40—1100)

A first or second class Master's degree in Agriculture Food Technology/Biochemistry with 5 (five) years teaching and/or research experience in Food Technology. Experience will be relaxed by two years for persons possessing Ph.D. degree.

- (6) Animal Geneticist (Pig) : One Temporary (Scale of pay Rs. 700—40—1100)

- (i) Master's degree in Animal Genetics/Breeding or any related discipline or field or an equivalent post-graduate qualification.

- (ii) Five years experience of research in breeding or live-stock preferably Pigs as evidenced by published work

Note:—Those who have already applied for the posts of Senior Scientist/Food Scientist in response to this Vishwa Vidyalaya Advertisement Nos. 5/71, 11/71 need not apply again as their previous applications will be considered

2. For details and applications forms please write to the Registrar, J. N. Krishi Vishwa Vidyalaya, Jabalpur-4 (M.P.) enclosing a self-addressed unstamped envelop in the size of 10 x 23 cms. and specifying the Advertisement Number and name of the post applying for.

3. Applications, complete in all respects, should reach the Registrar, J. N. Krishi Vishwa Vidyalaya, Jabalpur-4 (M.P.) together with application fee of Rs. 10 (ten) in the shape of Indian postal Orders duly crossed and endorsed in favour of the 'Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, a est by the 20th April, 1972.

4. Persons from abroad can apply on plain paper and the last date for receipt of their application forms is 24.4.1972.

5. Persons already in service must apply through proper channel.

6. The application fee will not be refunded in any case.

7. Experience as prescribed for the posts is relaxable where the candidates are exceptionally very well qualified and in the case of this Vishwa Vidyalaya employees

8. The candidates shall have to appear for interview at their own expense. The Vishwa Vidyalaya reserves the right whether or not to call an applicant for interview.

9. Teaching working knowledge of Hindi is essential for all posts.

Registrar

J. N. Krishi Vishwa Vidyalaya, Krishnagar;

Jabalpur-4 (M.P.)

The 14th March, '72

OSMANIA UNIVERSITY Hyderabad-7 (A.P.)

Advertisement No. 2/1972

Applications, in the prescribed form together with the Registration fee of Rs. 5.00 are invited for the following posts in the University Service, so as to reach the undersigned on or before 28.4.1972 :

- a) Professor of (1) Tamil (2) Law (3) Physics* (4) Chemistry* (5) Chemical Technology and (6) Plant Genetics.

- b) Readers in (1) Indology (2) Business Management (3) Library Science and (4) Geo-Physics.

- c) Lecturers in (1) French (2) Sociology (3) Linguistics and (4) Biochemistry.

- d) Associate Lecturers in (1) French (2) Public Administration (3) Political Science (4) Sanskrit (5) Islamic Studies (6) Journalism (7) Physics (8) Chemistry.

- e) Director, Department of Publication & University Press.

*Denotes Temporary vacancy.

QUALIFICATIONS :

1. Professor of Tamil, Law, Physics, Chemistry and Plant Genetics: A Research Degree of a Doctorate Standard or Published work of an equivalent standard with (10) Ten years of teaching experience with at least (5) Five years Post-Graduate teaching experience.

2. Professor of Chemical Technology : A Research Degree of Doctorate Standard in Chemical Technology/Chemical Engineering or published work of an equivalent standard with (10) Ten years teaching experience of undergraduate

and/or post-graduate classes or Industrial/Research Experience in an established concern/Research Institutes and experience in guiding research of students leading to Ph. D. Degree.

3. Reader in Indology : At least a Second Class Master's Degree in Indology or Sanskrit with a Research Degree of a Doctorate Standards or Published work of an equivalent standard and at least (5) Five years teaching experience of guiding research and/or post-graduate teaching.

4. Readers in Business Management and Geo-Physics : A Research degree of a Doctorate standard or published work of an equivalent Standard with at least (5) Five years experience of teaching and experience of guiding research and/or Post-Graduate teaching.

5. Reader in Library Science : At least a Second Class M. Lib. Science with at least a Second Class B.A./B.Sc./B. Com. Degree or at least a Second Class Master's Degree in any subject with at least a Second Class Bachelor's Degree in Library Science or one year post-graduate Diploma in Library Science with at least (5) Five years experience in a responsible capacity in a recognised Library or University of which at least two years should be teaching in Library Science at a University or in an affiliated College.

6. Lecturer in French, Sociology and Bio-Chemistry : At least a Second Class Master's Degree in the subject concerned with at least two years teaching experience in a recognised College.

7. Lecturer in Linguistics : At least a Second Class Master's Degree in Linguistics or its equivalent qualification in Modern or Classical Indian Language or English from a recognised University with at least (2) two years teaching experience in a recognised College.

8. Associate Lecturers in Public Administration, Political Science, French, Sanskrit, Islamic Studies, Physics and Chemistry : At least a Second Class Master's Degree in the subject concerned.

9. Associate Lecturer in Journalism : At least a Second Class Master's Degree in Journalism OR

At least a Second Class Master's Degree in English or one of the Social Sciences with at least a Second Class Post-Graduate Degree/Diploma in Journalism from a recognised University OR A Master's Degree in any subject with at least two years Professional experience on the editorial side.

10. Director, Department of Publication University Press : A Bachelor's Degree in Arts/Science/Commerce/Engineering and a Degree or Diploma in Printing from a recognised University or Institute in India/U.K./U.S.A. with at least five years experience in a responsible capacity in a Press equipped with letter-press & block making.

Note : Relaxation in educational qualification may be given to candidates with varied practical experience and possessing good Technical qualification.

Scale of pay :

Professor	: Rs. 1,100-1,600
Readers	: Rs. 700-1,250
Lecturers	: Rs. 400-950
Associate Lecturers	: Rs. 300-600
Director Press	: Rs. 700-1,250

Age :

Professors	: Not above 50 yrs.
Readers	: Not above 40 yrs.
Lecturer and Associate Lecturers	: Not above 35 yrs.
Director Press	: Not above 40 yrs.

Note: (i) Age limit does not apply to the employees of this University. (ii) Relaxation in age to the extent of (5) five years shall be granted to candidates belonging to Scheduled Caste/Schedule Tribe. Certificate thereof is to be enclosed to the application.

Application forms with full particulars can be had from the Director, Department of Publications and University press, Osmania University, Hyderabad-7, A.P. on payment of Rs. 3.00 in person or by Money Order or by a Postal Order UNCROSSED made payable to the Director and by sending a self-addressed envelope (11½c.m. x 26½c.m.) duly stamped 0.50 paise for ordinary or Rs. 1.50 for Registered post.

(Sd/-) L. B. DESHPANDE

Registrar

OSMANIA UNIVERSITY

Hyderabad-7 (A.P.)

Advertisement No. 4/1972

Applications, in the prescribed form together with the Registration fee of Rs. 5.00 are invited for the following posts in the University service, so as to reach the undersigned on or before 28.4.1972.

1. Professors in Civil Engineering, Mechanical Engineering and Electrical Engineering.

2. Reader in Mech. Engineering.

3. Lecturers in Mechanical Engineering and Mining Engineering.

4. Associate Lecturers in Mechanical Engineering and Electronics & Communication Engineering.

Qualifications :

1. Professors : A Master's Degree in Engineering in the subject concerned with at least (10) ten years experience of which (5) five years shall be teaching experience.

2. Reader : A Master's degree in Engineering in the subject concerned with at least (4) Four years teaching and/or Professional experience.

3. Lecturer in Mech. Engg. : A Master's Degree in Engineering in the subject concerned.

4. Lecturer in Mining Engg. : A Second class Bachelor's Degree in Mining Engineering or A.I.M. from Indian School of Mines, Dhanbad with at least one year experience in Industry/Teaching/Research.

5. Associate Lecturer in Mech. Engg. Master's Degree in Engineering in the subject concerned or a Bachelor's Degree in Engineering with at least (2) Two years teaching and/or professional experience.

6. Associate Lecturer in Electronics & Communication Engg. At least a Second Class Bachelor's Degree in Electronics and Communication Engineering or its equivalent.

Scale of Pay :

1. Professors	: Rs. 1,100-1,600
2. Reader	: Rs. 700-1,250
3. Lecturers	: Rs. 400-950
4. Associate Lecturers	: Rs. 300-600

Age :

1. Professors	: Not above 50 yrs.
2. Reader	: Not above 40 yrs.
3. Lecturers	: Not above 35 yrs.
4. Associate Lecturers	: Not above 30 yrs.

Note (i) Age limit does not apply to the employees of this University. (ii) Relaxation in age to the extent of (5) five years shall be granted to candidates belonging to scheduled caste/scheduled tribe. Certificate thereof is to be enclosed to the application.

Application forms with full particulars can be had from the Director, Department of Publications and University Press, Osmania University, Hyderabad-7, A.P. on Payment of Rs. 3.00 in person or by Money order or by a postal Order UNCROSSED made payable to the Director and by sending a self addressed envelope (11½ cm x 26½ cm) duly stamped 0.50 paise for ordinary or Rs. 1.50 for Registered Post.

(Sd/-) L.B. DESHPANDE
Registrar

LUCKNOW UNIVERSITY

Advertisement No. 6/1972

Applications are invited for the following permanent posts.
Readers in the grade of Rs. 700-50-1250 plus D. A. as admissible under the rules :

1. One Reader in Hindi
2. One Reader in Sociology
3. One Reader in Ancient Indian History & Archaeology
4. One Reader in Physics
5. One Reader in Botany
6. One Reader in Zoology
7. One Reader in Bio-Chemistry

Qualifications :

Essential : First or high second class Master's Degree and Doctorate in the subject concerned with a good academic record and experience of teaching honours/post-graduate classes for not less than five years and published research work of high standard in the subject concerned.

Preferential : Experience of teaching post-graduate classes and guiding research.

Lecturers in the grade of Rs. 400-40-800-50-950 plus D. A. as admissible under the rules :

8. One Lecturer in Hindi
9. Two Lecturers in Sociology
10. One Lecturer in Ancient Indian History & Archaeology
11. Five Lecturers in Physics
12. Three Lecturers in Botany
13. Three Lecturers in Zoology
14. One Lecturer in Bio-Chemistry

15. One Lecturer in Mathematics
16. One Lecturer in Statistics
17. One Lecturer in Geology
18. Seven Lectures in Law.

Qualification :

Essential : First or high second class Master's Degree in the subject concerned with a good academic record.

Preferential : Doctorate in the subject concerned advance studies and published work and experience of teaching degree/honours/post-graduate classes for two years

General : For purposes of qualifications required for the above posts the degree obtained in a subject taught in a Department which is subsequently constituted into separate Departments, shall be deemed to be degrees in the subject concerned for the newly constituted Departments.

Relaxation in the prescribed qualifications may be made in exceptional circumstances in accordance with the ordinances. Ability to teach LL.B. classes for the post in the Faculty of Law and undergraduate classes for all posts through the medium of Hindi is essential except for the post in Languages.

Benefits of Provident Fund available as admissible under the rules on confirmation for permanent posts. Period of probation is two years.

It is not necessary to fill all/any of the advertised posts.

Applications on prescribed form (available on request, accompanied with self-addressed envelope of size 23 cm x 10 cm, free of cost from the office of the Registrar) with recent testimonials, publications, etc should reach the Registrar, Lucknow University, by Saturday, April 29, 1972. The candidates, who are in service must send their application through the proper channel. Application Forms to outstation candidates will be issued by post upto Saturday, April 22, 1972.

Advertisement No. 3/1972

Application, in the prescribed form together with the Registration Fee of Rs. 5-00 are invited for the following posts in the University service - Post - graduate Centre, Warangal, so as to reach the

undersigned on or before 28-4-72.

1. Professors in Commerce, Zoology & Public Administration.
2. Readers in Commerce, Physics, Chemistry & Public Administration.
3. Lecturer in Physics.
4. Associate Lecturer in Physics, Botany & Zoology.

Qualifications :

1. *Professors :* A Research Degree of a Doctorate Standard or Published work of an equivalent standard with (10) Ten years of teaching experience with at least (5) five years post-graduate teaching experience.

2. *Readers :* A Research Degree of a Doctorate standard or Published work of an equivalent standard with (5) five years teaching and experience of guiding research and/or post-graduate teaching.

3. *Lecturer :* At least a second class Master's Degree in the subject concerned with at least two years teaching experience in a recognised College.

4. *Associate Lecturer :* At least Second class Master's Degree in the subject concerned.

Scale of pay :

1. Professors : Rs. 1,100-1,600
2. Readers : Rs. 700-1,250
3. Lecturer : Rs. 400-950
- Associate Lecturers : Rs. 300-600

Age :

1. Professors Not above 50 years
2. Readers Not above 40 years
3. Lecturer and Associate Lecturers Not above 35 years

Note : (i) Age limit does not apply to the employees of this university. (ii) Relaxation in age to the extent of (5) five years shall be granted to candidates belonging to scheduled caste/scheduled tribe. Certificate thereof is to be enclosed to the application.

Application Forms with full particulars can be had from the Director, Department of Publications & University Press, Osmania University, Hyderabad-7, (A.P.) on payment of Rs. 3-00 in Person or by Money Order or by a Postal Order UNCROSSED made payable to the Director and by sending a self addressed envelope (11½ cm x 26½ cm) duly stamped (50) paise for ordinary or Rs. 1-50 for registered post.

Sd/-

(L. B. Deshpande)
REGISTRAR.



UNIVERSITY



NEW:





January 11, 1972—the day cold was warmed by smiles !

The happy setting for this cordial rendezvous was provided by the Prime Minister's hurricane tour of the country, uniting all sections of the populace against the most unwanted war Pakistani rulers had declared on India. Here, she is being presented a cheque of Rs. 68000 as contribution from the staff and students of Aligarh University to the National Defence Fund. The cheque was presented by the Chancellor, the Nawab of Chhatari (second from right) and the Vice-Chancellor, Dr. Abdul Aleem.

UNIVERSITY NEWS

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● THE COVER

Shrimati Makiko Haslmato, sister-in-law of  Bihari Bosa, is seen giving a demonstration of flower decoration at Visva Bharti.

☐ Editorial (face 1) examines the implications of Prof. Mathai's proposals.

☐ Report on Developments in Technical education (page 4) nets down into the heart of AICTE (All India Council of Technical Education) and succinctly brings out some interesting sidelights.

☐ The essay on Lancaster conference (page 6) puts in perspective the much talked about Masa Higher Education

Dr. J. N. Kapur (V. C., Maarut University) answers some interesting questions on the Semester System—put to him by Dr. Amrik Singh (page 12)

☐ What did the South Indian Vice-Chancellors' third meeting decide at Annamalai? (page 14-15)

☐ Is Higher Education Spurious?—an article of hard-hitting realities couched in soft-hitting prose (page 18) by Prof. G. K. Shenoy.

Editor—W. D. Miranshah

PROFESSOR MATHAI ON BANGALORE

Thoughts and After-thoughts

Lord Robert Cecil remarked in jest once in the House of Lords: "Want to reform a university? You might as well reform a cheese!"

There is a certain amount of delicacy in cheese as there is about a university. Any attempt at its reform throws open the Pandora's Box.

A possibility somewhat similar to that probably also occurred to Professor Mathai—an educational veteran of many a battle. Some of his thoughts reflect his deep insight into the university as a total concept. And the fact that these are relevant to other universities as well should engage every university administrator, vice-chancellors included, in the cool hours of the morning.

Professor Mathai points out that when Bangalore was made a "Federal" university, the Act failed to define "Federal" (some people in Delhi University are confronted with a similar problem). Somewhat in a lighter vein, he says that "university" is a word which applies even to institutions that teach nothing but Homeopathy. Why should Homeopathy be regarded as so despicable is a question which he does not pause to answer!

He has noted the absence of merit and ability as determinants of teacher selection. And his remedy? Nothing but the ability and competence of the applicant, whom he wants left alone for a time to show his ability before he is made permanent. If promotion is contemplated, only merit should count, although experience should not be disregarded (but he does not suggest in what ratio). And there is a remedy, too, for the teacher who becomes "unresponsive": the power to dismiss him. But who will dismiss whom? More often it is the man who wants to dismiss others that gets dismissed.

He would have the new colleges converted into junior colleges and higher secondary schools—some and some ratio—for providing a more meaningful job-oriented instruction—as in Japan, for instance. But has Prof. Mathai not heard that we in India take over only such things as make things easier and not more difficult? The analogy of Japan implies that we should work harder. That is almost treason, especially if it is linked up with the power to dismiss someone.

Besides, he has repeated the Ramaswamy Mudaliar Committee's suggestion that abolishing the degree requirement for junior public appointments will take the pressure away from college enrolment. But he has obviously missed a bet here: there is another reason, probably quite as strong, which makes them degree-minded—matrimony!

Professor Mathai is more to the point when he suggests remodelling of the traditional university on IITs and agricultural universities. Where to find the funds however is a question that had better not be touched upon here.

After a series of excursions into the realm of thoughts and after-thoughts, he hits the bull's eye when he opines that age limits and the fixation of study period will curb activities of those who pass for students—the politicised species. The place is reeking with politics, he says; politicians, whether they operate directly or through apprentices, are all answerable for the rot that is to be found in our universities. Clearly he is under a constraint—or is it restraint?—to be polite on the subject. Beneath it all, one can see the seething anger—we wish Prof. Mathai had been more explicit. In that event, these few lines would have been written differently.—W.D.M.

After a passage of more than two years, a meeting of the All India Council for Technical Education (AICTE), the 21st in the series, was held in Delhi on April 21, 1972.

Prof. S. Nurul Hasan, Union Minister for Education and Social Welfare, presided over it. He gave a thoughtful address, in the course of which he surveyed the developments since the Council had last met. As he pointed out in his address, during this period Regional Committees, Boards of Studies and other Expert Committees had been functioning and the work of the Council had gone on quite vigorously. Another feature to be noted in regard to the timing of the meeting was that when the Council last met, the Fourth Plan had just started. Now there are less than two years before the Fifth Plan is due to begin. In a sense, therefore, it seemed appropriate to review the progress of the schemes undertaken so far, the results achieved and the lessons that could be drawn in regard to preparations for the next Plan.

When the Fourth Five-Year Plan started there was acute unemployment amongst engineers. Consequently admissions to engineering institutions had been reduced by about 31%. The reduction in admissions however had not been accompanied by reduction in the facilities for technical education and training. As a matter of fact this period has been utilised to consolidate as also to initiate certain programmes of quality improvement. According to Prof. Nurul Hasan, the programme of quality improvement in respect of teacher training, curricular reform, preparation of instructional material, development of new laboratory experience, etc. had quite prospered. Over the last two years 238 teachers had joined Master's and Ph. D. courses so as to improve their qualifications. The demand had exceeded original expectations and so additional facilities had been created to accommodate the growing numbers. Similarly 14 curriculum development groups had been set up, 9 for the degree courses

Developments in Technical Education

(From Our Own Correspondent)

and 5 for the diploma courses. These Groups had been set up at different centres and were working quite actively. While these programmes had considerable success another aspect of the programme had not received the same measure of success. This related to industrial experience for engineering teachers. When it came to getting a higher academic qualification like a master's degree or a Ph. D. teachers were very keen. But when it came to industrial experience they were not at all keen. This difference of approach sprang from the academic traditions of our country but it did not require much of an effort to show that the applicability of this tradition in the field of engineering and technology was strictly limited. Prof. Nurul Hasan therefore asked the universities to examine the issue if a minimum of industrial experience, say for 2-3 years, should not be prescribed as an essential requirement for all teaching posts in these two fields.

Another development to which he called attention related to the creation of over 400 places for the master/degree course at the various IITs and other engineering institutions in the country. This came to approximately 25% of the first degree awards each year. Most of these places were utilised and a large number of students were going in for advanced work in the Indian institutions. This however has not prevented Indian students from going abroad also in fairly large numbers, as some trend observers noted.

Though nearly 10,000 students each year receive apprenticeship training in industry, the situation is not all that satisfactory. Broadly speaking, the industry is not all that solicitous for imparting

training with the result that the time spent by student apprentices is not always utilised fruitfully. To remove some of these loopholes a new Apprentices Act has been drafted and presented to Parliament.

Polytechnic education too is receiving considerable attention. At its last meeting the Council had appointed an Expert Committee under the chairmanship of Prof. G. R. Damodaran to survey the scene and make recommenda-

"A CENTRAL INSTITUTE OF TECHNOLOGIST MAY BE SET UP..."

"SO AS TO INTEGRATE ONE YEAR'S PRACTICAL TRAINING WITH THE EXISTING COURSE IN ARCHITECTURE, THE DURATION OF THE COURSE SHOULD BE EXTENDED TO SIX YEARS..."

tions. The report has now been available for some time and has been widely circulated to State Governments as also to educationists. As the meeting of the Council was likely to take some time to be held, the Ministry of Education organised a conference of the State Directors of Technical Education. This conference made a series of recommendations, most of which were accepted by the AICTE. The more important of these recommendations are as follows:

- (a) Every State should set up a State Board of Technical Education on a statutory basis with the express purpose of ensuring coordinated

development of polytechnic education, continuous evaluation of standards, holding of examinations and award of diplomas.

- (b) Under the joint auspices of each Board and Regional Committee of the AICTE, there should be a standing Evaluation Committee to inspect the polytechnics on a regular basis and to suggest measures for improvement and development.
- (c) This Board should establish close cooperation and co-ordination with industry so as to train the right type of technicians.

Various other proposals particularly in regard to funding arrangements between the Central Government and the State Governments have also been made. But equally important is another proposal that there should be a separate Board under the aegis of the AICTE to look after all aspects of polytechnic education in all subject fields in an integrated manner. Perhaps a stage had been reached in the development of polytechnic education in the country where an overall unified authority working under the general direction of the AICTE might be the appropriate agency for ensuring suitable co-ordination.

The Council in the course of discussion also resolved that the Ministry of Education might prepare a Model Act for the establishment of State Boards of Technical Education on a statutory basis and circulate it to the various States.

Any reorganisation of polytechnic education must of necessity cover the training of teachers working in these institutes. In this connection four Regional Teachers Training Institutes had already been set up but their facilities were not being fully availed of by the Polytechnics. This has come about partly because of a certain amount of apathy on the part of State Governments to this aspect of education and partly to the

absence of sufficient incentives for them to avail of these facilities. Not many specific proposals were made in this regard but the issue was definitely raised and might be taken up for further discussion with the various State Governments.

The polytechnic students are eligible for the merit-cum means scholarships for technical students given by the Ministry of Education under the National Scholarships Scheme. Analysis however has shown that out of 2100 scholarships instituted in 1967-68

NOTE BOOK

specifically for diploma students under the old scheme when it had not merged with the National Scholarships Scheme, only 42 scholarships went to diploma students. This was patently unsatisfactory and the Council decided to take practical steps so as to raise the percentage of such students.

Amongst the other important decisions taken were the following:—

- (a) A Committee should be set up to take an overall view of the present state of all private technical institutions in the country—their financial resources, organisational and administrative set up, relationship with State Governments and other educational authorities, funding, etc.
- (b) Wherever English was not a compulsory subject at the school leaving stage, those seeking admission to polytechnics should be enabled to learn it and special arrangements be made for that purpose.
- (c) A Central Institute of Printing Technology may be set up.
- (d) So as to integrate one year's

practical training with the existing course in Architecture, the duration of the course should be extended to six years.

- (e) The staff of the Schools of Architecture should be permitted to undertake consultancy work.
- (f) In order to encourage management education, the Centre should give hundred per cent grant for a minimum period of ten years to institutions approved by the Board of Management Studies. The Council was not in favour of multiplying the number of university centres and other institutions for management courses unduly. Instead it recommended that an integrated plan to develop facilities with accent on quality and standards may be drawn up.
- (g) An Expert Committee to review the existing system on admissions to technical institutions and to recommend revised procedures and methods for selection of students may be set up.
- (h) A Joint Committee of the UGC and the AICTE be set up to review the whole system of engineering education at the first degree level.
- (i) Since according to estimates prepared by the Institute of Applied Manpower Research there was likely to be a shortfall in the production of engineers at the end of the Fifth Five-Year Plan, the possibility of restoring admissions to their full capacity, namely, 25000 to the degree course and 45000 to 50000 to the diploma course may be investigated.

University News SUBSCRIPTION

RATES

One year	Rs. 9
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What will they talk about at Lancaster?

Autumn sounds quite promising at Lancaster this year—there begins at the University what may turn out to be quite an unusual conference of the year: some noted academics will get together and look into "The Implications of Mass Higher Education"—the theme chosen for the 2nd International Conference on Higher Education (September 4-8).

It is timely—indeed, overdue. Education to-day must reckon with swift—and often radical—changes. Ever since University was invented, higher education has been the exclusive preserve of the "elite" and the affluent. This last decade has witnessed undoubted demolition of this monopoly, and has made Mass Higher Education almost an inseparable part of civilised living. Mass Higher Education has already arrived in countries like America, Russia and Japan; it is due soon in Europe.

The educators assembling at Lancaster will ponder and analyse the overall concept of Mass Higher Education and explore answers to a number of puzzling issues thrown up by this new but powerful new-comer. Some of these are likely to be: what demands will it make upon governments in institutionalizing and administering it, finding the resources for it, and absorbing and accommodating its highly educated, hopefully creative and potentially frustrated products? Will it help us to solve our major material problem of economic growth without destructive pollution and exhaustion of the planet or mutual destruction of the human race? To this end should higher education be confined to the young adult age & group, or

should we not make it available on a continuing, recurrent or permanent basis to everyone of whatever age who wants and can benefit from it?

There will be two plenary sessions—one at the beginning; the other at the end. Four specialist key-note groups will tackle their peculiar areas like: (1) "The structure of higher education—world view" (keynote speaker: Sir Eric Ashby, Master of Clare College, Cambridge; Chairman: Harold Perkin, Professor of Social History); (2) Costs and benefits of mass higher education" (keynote speaker: Dr. Charles Carter, Vice-Chancellor, University of Lancaster; Chairman: Mike Simpson, Professor of Operational Research); (3) "Continuing Education (education permanente)" (keynote speaker: Dr. Walter Perry, Vice Chancellor, The Open University; Chairman: Alec Ross, Professor of Educational Research); and (4) "The student in

Don't miss the flight to Lancaster!

It is an open invitation from the University of Lancaster.

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If you're still undaunted, please write to the Registrar directly.

mass higher education": (keynote speaker: Professor Eugen de Jonghe, Catholic University of Louvain; Chairman: Noel Entwistle, Professor of Educational Research).

To India, as no less to other countries of Asia, the deliberations at Lancaster will be of great academic relevance.

PERSONALIA

□ Professor Ishwar Chandra resumed charge as Vice-Chancellor of the University of Sagar on March 28.

□ Dr. Atmanand Mishra, Principal, College of Education, University of Sagar, has been appointed Rector. Dr. Mishra assumed charge on April 15.

□ Professor S.C. Dubey, Head of the Department of Anthropology & Sociology, University of Sagar, has joined as Director Indian Institute of Advanced Study, Simla.

□ Sri K. Madhava Menon, former Director of Collegiate Education has taken over as the Pro-Vice Chancellor of Calicut University (F.N.)

Mauritius and India to exchange trainee Coaches:

When recently Mr. Basant Rai, the Minister of Youth and Sports, Mauritius, called on his opposite number in India, Professor S Nurul Hasan, something very meaningful emerged—India will be sending Hockey and Cricket coaches to Mauritius and receiving coaches for sports and physical education at the National Institute of Sports Patiala and Laxmibai College of Physical Education, Gwalior.

An incidental-but important-issue was the student exchange programme, somewhat similar to the one Mauritius has with France. The idea of exchanging student delegations was that they could discuss things of mutual interest at seminars and symposia.

Although Professor Hasan has agreed to send a student's delegation to Mauritius, the time for its visit has yet to be worked out.

P. A. U.

Eighty Cotton Scientists Worried!

A workshop of prominent scientists from agricultural universities were seized of rather a ticklish problem: how to increase both the yield and the quality of cotton?

The 80-strong specialist group was attending the North Zone Cotton Workshop here last month.

Dr. Sukhdev Singh, who directs research at the university, confessed that they were all faced with a great paradox: insufficiency of cotton in a country coupled with a slump in its prices. He was of opinion that nothing less than a special cell to go into the whole question of cotton marketing would do.

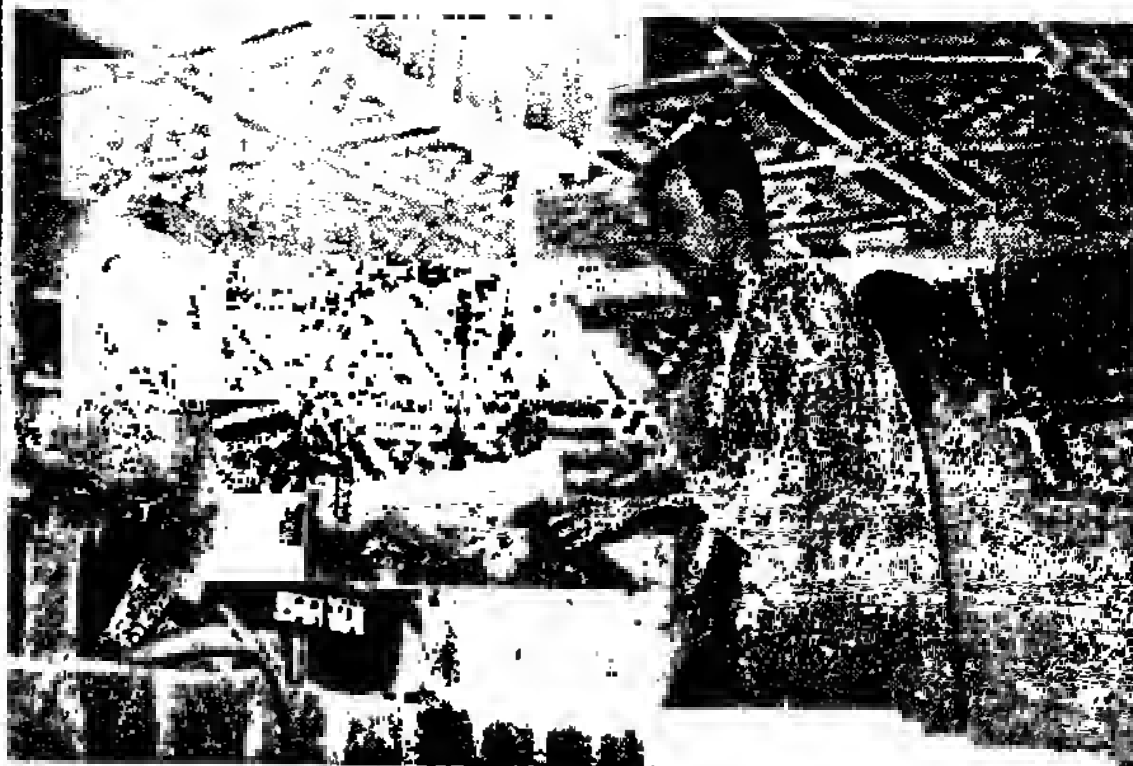
Dr. T. Singh reported that punjab 320 F—a cotton variety—was susceptible to jassid attack, while it gave a low yield.

The Visitors from North Vietnam

An agricultural delegation from the Democratic Republic of North Vietnam enjoyed punjabi hospitality on April 7.

The delegation consisted of Mr. Nguyem Choung, Vice-Minister of Agriculture, Mr. Dao The Tvam, Head of the Department of Agronomy, Mr. Nguyem Muoi, Head of the Department of Animal Husbandry and Mr. Nguyem Dy Niem.

The Vietnamese Agro-Scientists appeared to have a keen eye on the new farm technology obtaining in Punjab today, especially enquiring about the method of growing wheat.



The Chancellor conferring the degree of Doctor of Science on Dr. G. S. Venkaaraman.

BHU HONOURS VENKATARAMAN

At a convocation on March 29, 1972, the Banaras Hindu University conferred the degree of Doctor of Science—the highest award of the University in Botany—on Dr. G. S. Venkataraman.

Born at Tenkasi (South India) in 1930, Dr. Venkataraman had his early education at his native school and St. Xavier's College at Palayamkottai. Graduating in Botany from Madras University in first rank, he was awarded the *Alagappa Gold Medal*.

His early interest in *algae* took him to B. H. U. Varanasi, where he obtained M.Sc.—and, later, Ph.D.—degree in Botany, under guidance of the Late Professor Y. Bharadwaja.

Called upon to organise *algae*

research at the Indian Agricultural Research Institute, New Delhi in 1956, he established a strong school of Applied Algology there.

Author of three monographs, Dr. Venkataraman has published individually or jointly with his research associates over a hundred research papers on *algae* and *bacteria*.

In 1961, he spent a year at the Institute of Applied Microbiology at Tokyo, Japan. And as the recipient of the coveted Alexander von Humboldt Foundation's Junior Fellowship, he visited West Germany and other European countries in 1969.

When he visited Varanasi to receive his D.Sc. Degree, it was merely home-coming after 10 years!

They were given them the example of West Bengal primarily a rice growing soil like their own and assured that they, too, could succeed in growing wheat in Vietnam. The delegation was also informed that work was in progress on rust-resistant strains, which had greater protein content and bread-making adaptability.

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UNIVERSITY NEWS

CAMPUS NEWS

Andhra

Contribution to India's Culture

Presided over by Shri Jatavallabhule Purshottam, the renowned Sanskrit Scholar of Andhra, a seminar on the contribution of Andhra to Indian culture was organised under the auspices of the S. V. U. Oriental Research Institute. The participants deliberated on the issue on 27th, 28th and 29th March. Shri Jatavallabhula found the seminar as an opportunity of understanding these aspects of Indian culture which had been enriched by the Andhras. To his mind, Andhra was uniquely situated in India's cultural history. The context in which, he felt, this could be viewed, had two aspects—time and place. He felt that the context was as important as actual content of work and he knew of no branch of Indian culture left un-enriched by the Andhras.

The Vice-Chancellor traced the history of Andhra culture since the times Sanskrit was the spoken language right up to the present. Andhra culture and language had spread both to East and the South-east in the past to countries like Burma, Thailand, Malaysia, and the Philippines. The Vice-Chancellor, who inaugurated the seminar, said: "If it was possible for Krishna Deva Raya to wield pen and sword with equal skill and strength and also to find time for cultural activities, there is no justification for us not to show interest in such activities today."



In Progress—The Third Convention of Agricultural Universities at Bangalore Dr. D. P. Singh, President of the association is addressing the Convention delegates.

GURU NANAK

A UGC Visiting Committee Arrives

A Visiting Committee appointed by the University Grants Commission visited the Guru Nanak University on April 14 & 15, to examine the Fourth Five Year Plan requirements of the University. The Committee consisted of Professor MV Mathur-Director, Asian Institute of Educational Planning & Administration; Professor JN Kapur, Vice-Chancellor, Meerut University; Professor RG Mehrotra, Head of the Department of Chemistry, Rajasthan University; Professor RS Sharma, Head of the Department of History, Patna University; Professor Rais Ahmed, Head of the Department of Physics, Aligarh Muslim University; and Professor SC Maheshwari, Professor of Botany, Delhi University.

Two Officers of the Commission, Dr. D. Shanker Narayan, Additional Secretary, and Dr. S.C. Goel, Education Officer, are also on the Committee.

The Members visited various teaching and non-teaching departments of the University and its Campus. They also held discussions with the functionaries of the University and the Vice-Chancellor, Sardar Bishan Singh Samundri, concerning the plans and projects of the University.

His excellency H. E. Patrick Shaw, High Commissioner for Australia in India, visited the Guru Nanak University on 9th April. He was received by the Registrar, S. Bharpur Singh and Heads of various Departments of the University. Mr. Shaw went round the new Campus and saw the building construction.

Referring to his visit to this University, he said: "Coming as I do from a country of new Universities, I felt much at home seeing the preparations for Amritsar Guru Nanak University. The planning is practical and the buildings will be modern in the best sense. It is good to see this emphasis on education which is fundamental not only to economic and social progress but to the welfare of the people in the widest sense. I look forward to returning and seeing the campus when it is completed and so many dreams have been fulfilled."

The Registrar of Guru Nanak University, S. Bharpur Singh, has issued the following press statement: "My attention has been drawn towards a news-item published in a section of the vernacular press to the effect that the Guru Nanak University authorities have issued instructions to the Examiners that they should mark the answer books leniently. The news is absolutely baseless and unfounded. No such instruction has been issued by the Guru Nanak University authorities."

The 5.45-Lakh Grant from UGC

The university has been granted a special financial assistance amounting to Rs. 5.45 lakhs by the University Grants Commission for the Departments of Chemistry and Economics under the scheme: "Programme of Special Assistance to Selected Departments."

First School for Well-Logging

In all, some 38 delegates representing over 19 institutions participated in India's very first school for well-logging, which was recently conducted on the campus under the auspices of the Centre of Exploration Geophysics. The Director-General, Geological Survey of India, Mr. M. S. Balasundaram, inaugurated the school, and the Vice-Chancellor presided.

OSMANIA

Professor Dimitiri P. Lobonov, Rector at the Moscow Geological Prospecting Institute, who was in town, took a keen interest in the school. He also made the welcome announcement that an International Conference on Geophysics Education would be held at the Osmania University this year. Another Russian, Professor Plusnan, the Vice-Rector of the Moscow Institute, was the co-ordinator.

Professor V.L.S. Bhimashankaram, Head of the University Geophysics Department, was the Director of the School.

AUTONOMOUS COLLEGES IN OSMANIA ?

A Screening Committee is soon to be appointed by the Vice-Chancellor of the Osmania University "to consider the feasibility of granting autonomy to any particular college and work out the details under which such colleges have to function."

The Academic Council at its meeting held on 24th March, 1972—while accepting, in principle, the creation of autonomous colleges—resolved to authorise the Vice-Chancellor to appoint such a screening committee or committees.

This committee will have one or two external members and a representative from the University Grants Commission.



Prof. Bashiruddin to Singapore

Professor S. Bashiruddin, who is Head of the Department of Journalism, represented India at the recent Asian Mass Communication General Assembly Conference at Singapore. Incidentally, the Professor was also elected as Alternate Secretary of the Indian Journalism Education Association formed recently at the Indian Institute of Mass Communications, New Delhi.

A Regional Documentation Centre Planned

Soon to go into operation this year on a grant totaling one lakh from the Andhra Pradesh Government, is the Regional Documentation Centre for South India. It will be set up at the Osmania University Library by the Indian Council of Social Science Research at New Delhi.

Principals, Heads Attend Training Programme

Eight Heads of Department and 21 Principals took part in a two-week Workshop-cum-Training Programme on Collegiate Administration. The workshop was sponsored jointly by the University, the Ford Foundation, the University Grants Commission and the Administrative Staff College of India.

While first of the three programmes was held in September last, the next programme will be held sometime in the third week of July this year.

Philosophical Congress

Osmania University hosted the 45th session of the All-India Philosophical Congress on April 13. Mr. Gopalrao Ekbote, Chief Justice of the Andhra Pradesh High Court, inaugurated the Congress. A hundred and fifty delegates from various parts of the country compared notes.

The Prime Minister, Shrimati Indira Gandhi is seen here receiving from Vice-Chancellor L. Bultayys a silver casket containing a draft for Rs. 2,11,116 as contribution from Andhra University for the National Defence Fund.

"MODERN UNIVERSITY SHOULD TRANSCEND CAMPUS WALLS"

This year the University Syndicate was able to have Dr. James Topping, who delivered two important lectures: one on "Recent Developments in University Education in Britain"; the other on "The Education of Scientists and Engineers—Generalists or Specialists".

Dr. Topping, a former Vice-Chancellor of Brunel University, is a distinguished British educationist. The Vice-Chancellor, Dr. D. Jaganatha Reddy said that Dr. Topping was recognised for having introduced several innovations in technical education at Brunel, his work mostly consisting of making students acquire not only the right skills but also the right attitudes.

Emphasising repeatedly that educational planning was dynamic and, therefore, subject to periodical revision and renewal as part of that total change which is overtaking society. He took a critical look at various Education Commission Reports, drawing extensively on his personal participation in the shifting scenes of higher education drama in Britain. And of the politics of the University of the seventies, Dr. Topping thought that its centre of gravity was located somewhere "beyond the confines of its campus walls."

He traced the growth of higher education starting with the 11th Century and during the intervening centuries to the present. He pinpointed lacunae in university education of the past and spoke of the great advances in knowledge and skills among students, a phenomenon which was not isolated from the sweep of science and technology in recent years.

Dr. Reddy, in thanking Dr. Topping, said that they had got a much needed message through his lectures and of the great impact of Robbin's and Hale Committee Reports on British and university authorities, especially the speed of their implementation.

—JAMES TOPPING AT SRI VENKATESWARA UNIVERSITY

UNIVERSITY OF SAUGAR

The State Education Secretary, Shri K. L. Pasricha, visited the university on 9th April to take a look at its Fourth Five Year Plan and the problems related to university finance. He went round the Library and saw the Museum of the Ancient Indian History, Culture & Archaeology.

Dr. R. C. Mehrotra, Head of the Department of Linguistics, Ravishankar University, Raipur delivered recently a series of lectures on "Non-Linguistic meaningful utterances of Hindi," "The First word of Child"; "Morphological Structure of Indicative Forms verb 'HONA' (To be) and "Indian Languages and Devnagari Script." During the course of his lectures he suggested several new topics for research in various branches of Linguistics and advised coordination for reorientation of Linguistic studies in Universities and Research in Madhya Pradesh.

The Fifth Convocation of the Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, which was scheduled to be held on April 22, 1972 at the College of Agriculture Indore, has been postponed.

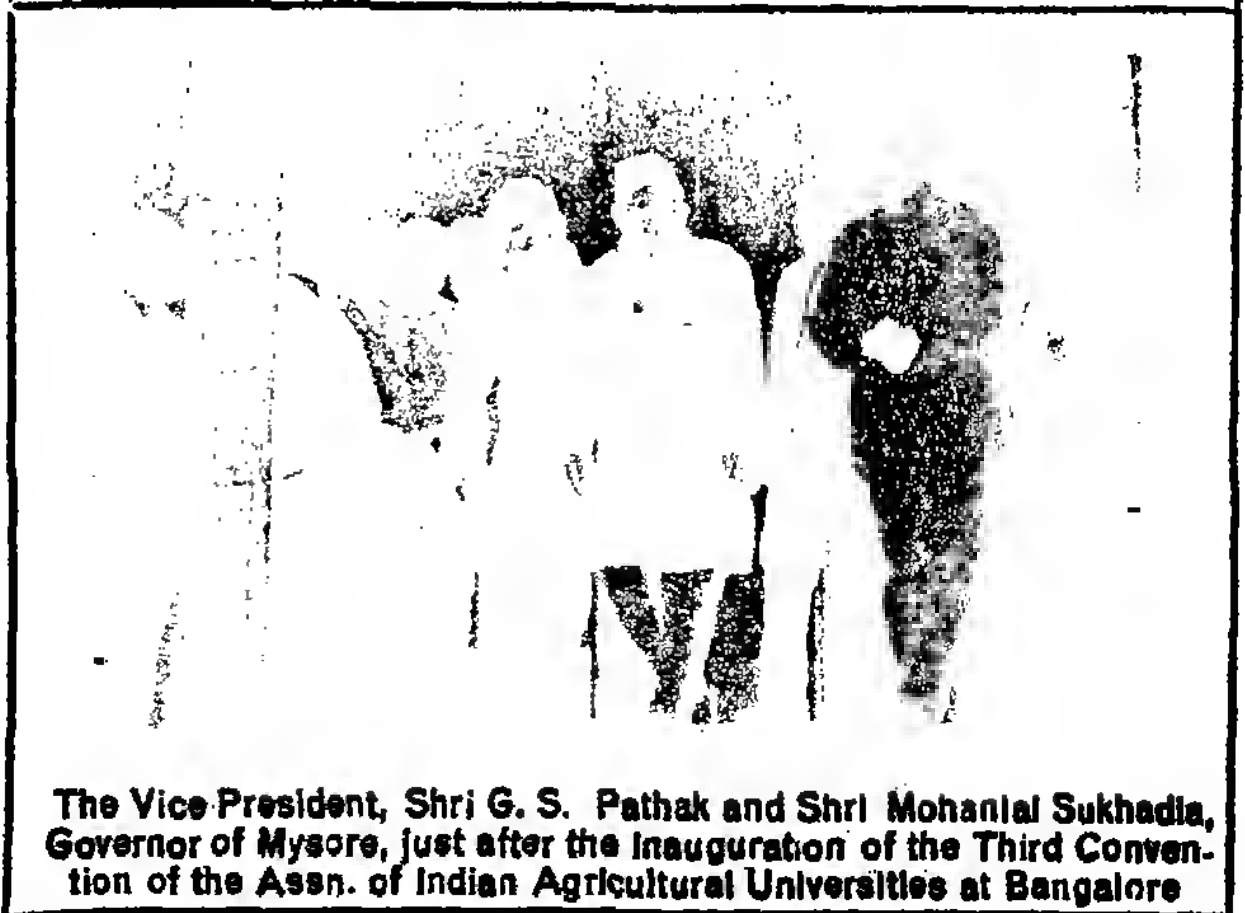
J. N. KRISHI VIDYALAYA

This has been done in view of facts, firstly, that there are a number of vacancies in the Board of Management of the Vishwa Vidyalaya and, second'y, that the Session of the State Assembly had been extended upto April 21, 1972 which would hamper the meeting of the Board which precedes the Convocation.

CORRESPONDENTS :

Please work hard on your despatches. We need news behind the news—the issues behind mere facades.

— Editor



The Vice-President, Shri G. S. Pathak and Shri Mohanlal Sukhadia, Governor of Mysore, just after the Inauguration of the Third Convention of the Assn. of Indian Agricultural Universities at Bangalore

INDIAN INSTITUTE OF SCIENCE

BANGALORE-12

SESSION 1972-73

OPPORTUNITIES FOR ADVANCED STUDIES AND
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DEPARTMENT of Applied Mathematics, Biochemistry, Inorganic & Physical Chemistry, Microbiology and Pharmacology, Molecular Biophysics, Organic Chemistry, Physics.

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Aeronautical Engineering	Aerostructures, Aerodynamics, Rockets and Missiles
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Elec. Communication Engg.	Electronics, Microwaves, Acoustics, Computers & Information Theory
Electrical Engineering	Applied Electronics & Servomechanism, Power System Engineering
High Voltage Engineering	High Voltage Engineering
Internal Combustion Engg.	Automobile Engineering, Internal Combustion Engineering
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Metallurgy	Physical Metallurgy & Chemical Metallurgy
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B.E. COURSES
(3-year duration)

Electrical Communication Engineering, Electrical Technology and Metallurgy.

DIPLOMA COURSE IN INDUSTRIAL MANAGEMENT
(1-year duration)

Entry open for candidates with engineering and non-engineering backgrounds.

DIPLOMA COURSE IN MOLECULAR BIOCHEMISTRY
(1-year duration)

Teachers and Research Workers in University Departments, Medical Colleges or Research Laboratories, subject to possessing the minimum qualification, will be given preference for admission.

Eligibility for admission

The Indian Institute of Science encourages inter-disciplinary studies. Entrance requirements for courses of study and research are broadbased. Full details are provided in the booklet, "Admission Announcement for 1972-73". Generally, the following are the minimum qualifications:

B. E. Course

Bachelor's degree in Science (Physics, Chemistry and Mathematics) first class with at least 60% marks in the aggregate.

Research/M.E./M.Tech./Diploma Courses

Bachelor's degree in Engineering or Technology OR MB. BS. or Master's degree in Science/Arts/Commerce in relevant fields. The minimum requirement is a second class with at least 50% marks in the aggregate in all cases.

The minimum requirements are higher for some of the courses. In general a much higher level of academic achievement is expected than the minimum qualifications specified.

Scholarships/Fellowships:

All research, M.E., M. Tech., and Diploma students and a majority of the B.E. students can avail of Institute scholarships ranging from Rs. 75/- to Rs. 400/- p.m. In addition, there are other scholarships and fellowships ranging from Rs. 75/- to Rs. 500 p.m. sponsored by the TATA Trusts, TISCO, Tata Electric Company, UGC, CSIR, ICMR, INSA, NAL, DAE, State Governments and others.

How to apply for admission:

First Step:

Candidate who possess the Qualifications outlined above may send immediately an enquiry to the REGISTRAR, INDIAN INSTITUTE OF SCIENCE, BANGALORE 12, accompanied by a self-addressed and stamped (20 paise plus 0.5 paise refugee stamp) envelope of the size 23 cms x 10 cms. The cover addressed to the Registrar should be superscribed "ADMISSIONS" on the left hand top corner of the cover.

Second Step:

Immediately on receipt of the self-addressed stamped envelope, the Institute will send a booklet "Admission Announcement" containing details of the admission qualifications for research and courses, scholarships and fellowships available, hostel facilities etc.

Third Step:

Candidates are advised to go through the booklet carefully and satisfy themselves that they possess the qualifications prescribed for admission to the particular course or for research they intend to apply for. They should then send a requisition for the application form (a) and a copy of the Handbook of Information following the directions given in the booklet "Admission Announcement". This requisition together with the postal order (a) for the proper amount should reach the Registrar on or before 1st June, 1972.

Fourth Step:

Candidates should fill in these application forms carefully following the directions given. They should send in the completed application form(s) together with attested copies of certificates/marks statements to the extent possible so as to reach the Registrar latest by 5.00 p.m. on 22nd June 1972.

Note:

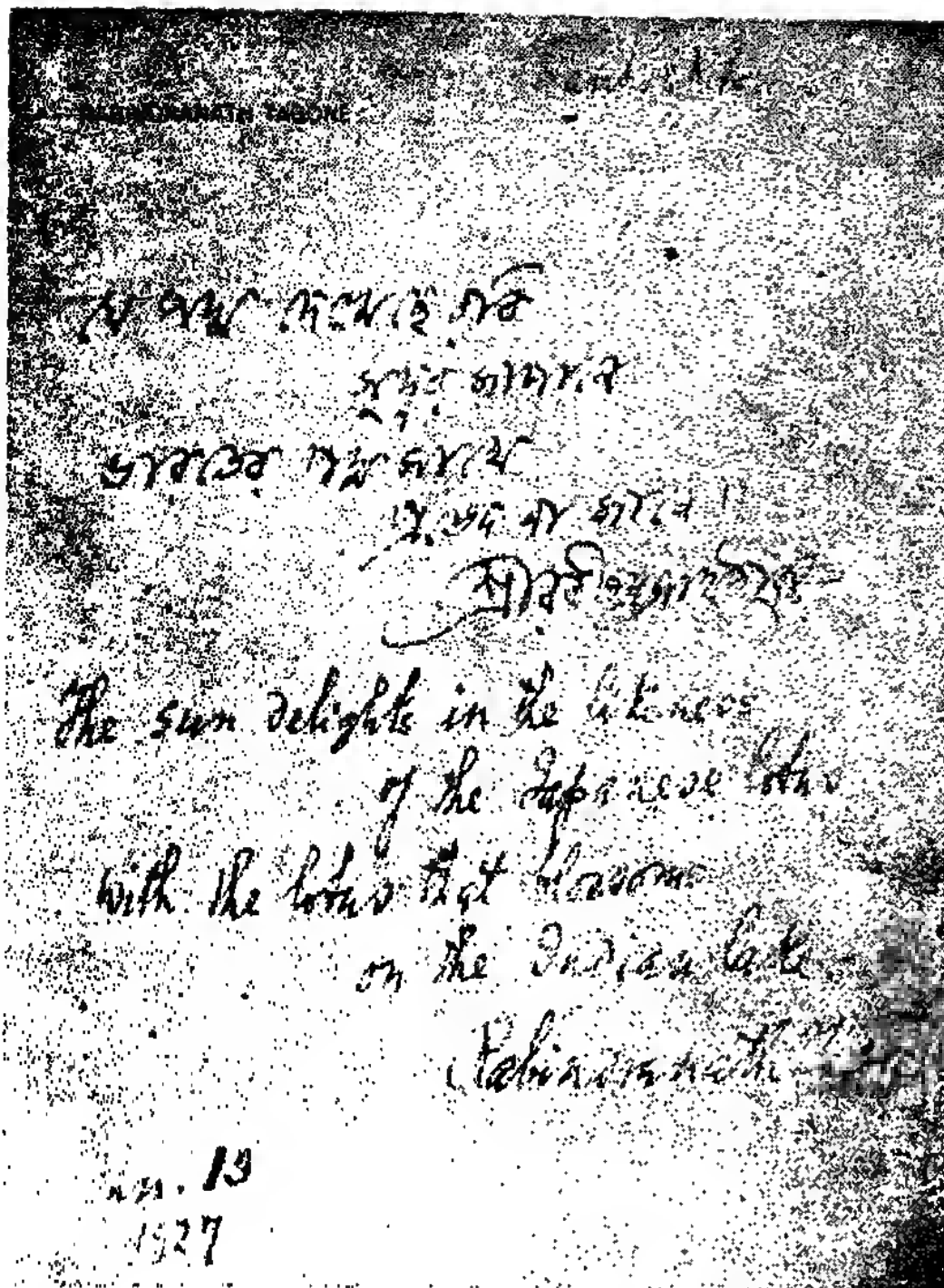
Application forms received after the due dates will not be considered. However, for research, it may be possible, in special cases, to consider late applications at later points of time, provided vacancies exist.

Prescribed Dates:

Last date for receipt of requisitions for applications forms	1 June 1972
Last date for receipt of completed application forms	22 June 1972

R(H)001-3/72
14 March 1972

S. S. PRABHU
Registrar



VISVA BHARATI

*The sun delights in the likeness
of the Japanese lotus;
With the lotus that blossoms
on the Indian lake!*

Hitherto unpublished, this short poem, (facsimile above) was written by Rabindranath Tagore, on January 13, 1927, for a Japanese periodical. It was one of the many documents exhibited recently at the "Rabindranath and Japan Exhibition" organised recently in honour of the 22-member delegation from the Indo-Japan Tagore Association of Tokyo.

The delegation which included the siver-in-law of Rashbihuri Bose, Shrimati Makiko Hasimoto, also attended the spring festival. By no means a new-comer to Santiniketan, she was there in the 1930s, attached to Kala Bhavana, where she used to lecture on Flower Decoration, Ikebana Tapestry and the famous Japanese Tea Ceremony. This time, too,

she gave an interesting demonstration of Ikebana.

The Japanese visitors also met Visva-Bharati students at a cultural evening. Shri Santidev Ghosh, Adhyaksha, Sangit-Bhavana, spoke of Rabindranath's contribution to an enduring relationship between Japan and Visva-Bharati.

The leader of the Japanese delegation, Mr. Kazuo Azuma, who taught Japanese at Visva-Bharati some time ago, stressed the strengthening of happy ties of friendship established between Japan and Visva-Bharati. He also maintained that admirers of Rabindranath Tagore in Japan were thinking of founding a Nippon-Bhavana at Santiniketan. Korean Scholars and the Czech Indologist

Four Korean scholars, Professor SHU Kyung Soo (Dongguk University), Professor Ahn Rye-

Hyon (Dongguk University and Director of Buddhist Museum), Professor Choung Jong-Koo (Chun Nam National University), and Professor Rhi-Min-Yong (Dongguk University) recently visited the campus and Cheena-Bhavana. They had prolonged discussions with Professor K. Vankataramanan, Head of the Department of Chinese Studies.

An equally important visitor was Dr. M. Krasa, the well-known Indologist and Historian from Czechoslovakia.

Burmese Archaeological Delegation

A Burmese archaeological delegation, representing the Archaeological Survey of Burma (U. Aung Thaw, Director), Pagon Museum (U. Bo Kay, Curator) and the Archaeological Library, Rangoon (U. Ohn Maung, Librarian) were at Santiniketan on March 9 and 10. The Burmese Consul-General, U. Than Maung and Vice-Consul U. Sein Tce accompanied the delegation. The distinguished visitors were shown round the campus and various departments of the university. They had tea with the Vice-Chancellor, Dr. P. C. Gupta, and participated in a foreign students' 'get-together, at Visva-Bharati.

The delegation also met the renowned Artist, Shri Mukul Dey and visited the Terra-Cotta temples.

Lithuanian Art Exhibition

An Exhibition of Lithuanian Artists at the Kala-Bhavan was inaugurated by the Russian Vice-Consul, Mr. Mirkasymov on March 26.

Mr. Mirkasymov deeply admired the Indian Cultural tradition and hoped that friendship between Russia and India would be further strengthened by such cultural contacts. He also presented to the Visva-Bharati Library 25 books, being mostly Bengali translations of original Russian works.

Mr. D. R. Kowshik, the Principal of Kala-Bhavana, gave a critical resume of Lithuanian Arts, concluding that the exhibition reflected extraordinary folk sensibility through simple art forms of innocent rural culture.

DISCUSSION

MEERUT VC ON THE SEMESTER SYSTEM

The University News presents here the views of Dr. J. N. Kapur, Vice-Chancellor, Meerut University, on the subject. Both the questions—framed by the Inter-University Board Secretary, Dr. Amrik Singh—and Dr. Kapur's replies are being reported verbatim, for affording an opportunity to those among readers of the University News who may like to come forward with their own views on the Semester System.—Editor

Question : Assuming that it is desirable to introduce the semester system at the under-graduate level in our universities, what particular preparations may be undertaken so that the system, when introduced, is a success ?

Answer : The university desiring to introduce the semester system should take these steps :

- (a) Study the working of the system in a university of its own type. For example, for residential universities, I.I.Ts. and Agricultural Universities may provide a model. For affiliating universities, the Meerut University system may be studied.
- (b) Thorough discussions on the implications of the system be organised for students and teachers.
- (c) Students and teachers must be made to feel that this system will require harder and more systematic work on the part of both.
- (d) The office must be strengthened and made more efficient to deal with the possibility of about three examinations in a year.

Question : To put the question another way, what are the pitfalls to be avoided ?

Answer : The pitfalls to be avoided are :

- (a) Not to introduce the system without adequate preparation.
- (b) To set up the necessary machinery well in advance ; and, if possible, to test the machinery by introducing it in one faculty at a time.

Question : Having regard to the structure of under-graduate education prevalent in the country, what are the problems when the course content has to be split semesterwise ?

Answer : There is no difficulty in breaking up the courses into semesterwise units. Usually in the beginning, the break-up is artificial but if careful thought is given and the introduction is not hurried, more careful consideration may be given to the units. In fact, semester units are more natural than year-long units.

Question : From the point of view of students, how does introduction of this system help them ?

Answer : The main benefits to students are :

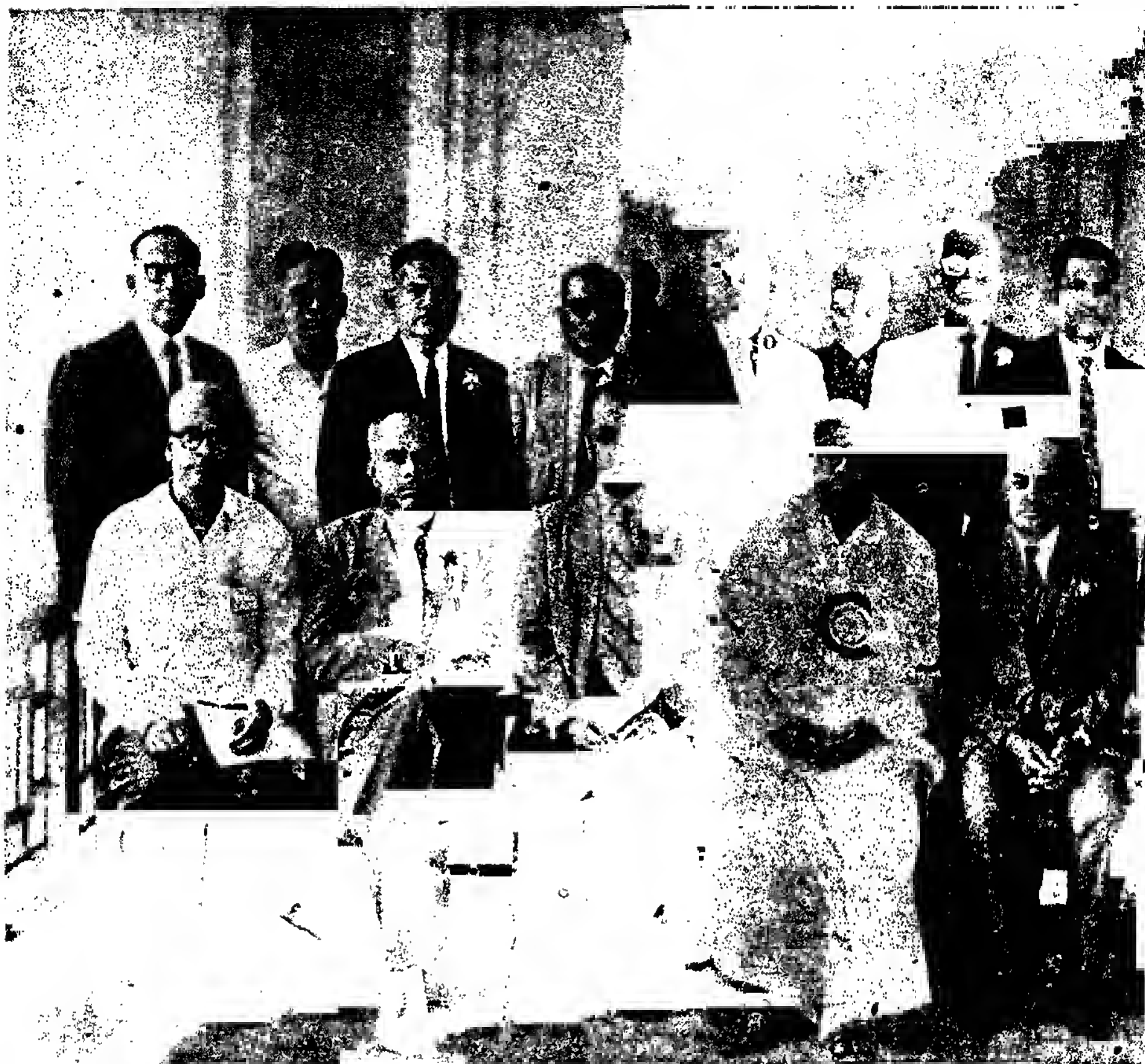
- (a) They work more regularly during the year.
- (b) They save time because the semester system implies course-wise promotions. A student who clears a course need not appear in it again. On the whole, 90% of the graduates get their B.A. degree in 3 years' time and about 80% of them can complete it in 2½ years ; about 60% complete it in 2 years and there is a possibility of 20% completing in less than 2 years.
- (c) Students can make use of their summer vacation to make up for any deficiency during the year because a semester course can be studied and examination conducted in it during the summer. This is not possible in a year-long course.
- (d) Students can even earn advance credits in this system.

Question : Or, to put it another way, in what specific respects do students have to adjust their study habits and other attitudes so as to meet the requirements of this system ?

Answer : In this system, students have to be alert almost from the beginning. A student joins in July and begins his studies seriously from the middle of August for the examination to be held in November. In the older system, students become serious only in January and February. But they have to be more regular in their habits of study, for if they miss their lectures for even a fortnight, the loss becomes serious.

Question : Does this system make any additional demands in terms of preparation, punctuality, and responsiveness on the part of teachers ?

- Answer :** They have to be more responsive in the system. They have to take their classes punctually and regularly. The colleges have to avoid holidays at any cost and extra-curricular activities have to be very carefully spread out.
- Question :** Does everything depend upon the individual teacher or do his colleagues also have a role to play in respect of the items referred to ?
- Answer :** The system calls for collective responsibility because lack of seriousness in one group of teachers may have harmful effect on others.
- Question :** Have any additional library or laboratory facilities to be provided to enable students to adjust to the increased tempo of work ?
- Answer :** Additional library and laboratory facilities are desirable but not necessary.
- Question :** Or, again to put it in a different way, has the outlay to be increased in any way in terms of building, staff, equipment, etc., so that the system functions successfully ?
- Answer :** For the successful working of the system, we do need about 10% increase in terms of building, staff and equipment. However, there is a great deal of pressure of work on the office staff both in colleges and universities, because they have to conduct examinations three times a year and keep records of the same. Therefore, for the successful working of the system, the office staff may have to be increased by 30-40%. Alternatively, use may be made of computers and other mechanisation processes.
- Question :** Since the gap between one semester and another is not more than four weeks, normally speaking, how is the result declared in time ? The real question is of adjusting the system of public examination to the semester system in the absence of internal assessment.
- Answer :** In order to reduce the time for declaration of results, Meerut University has evolved the system of central evaluation and has made use of computers for evaluation work. Instead of sending answer books to teachers, the scripts are collected at various centres in the university and teachers go to these centres to evaluate answer books. The answer books are all evaluated by the teachers of the university and for each paper evaluation there may be groups of 6-12 teachers evaluating it after joint consultation. Instructions are thoroughly discussed, sample checking of marked answer books is done by Deputy Head Examiners and nobody is allowed to take the answer book out of the evaluation centre. This leads to a decreased use of unfair means in examinations as no student can approach examiners and since they get 40 answer books each to examine in the morning and deliver them to the university before the end of the day. It, however, requires a great deal of discipline on the part of teachers and sincerity in evaluation. We are also trying to perfect the computer system because in the initial stages it has given us a lot of headache. The main reason has been the lack of coordination between the inefficient human component and the super-efficient machine component. In Meerut University, we have been able to declare 99% of our results in time but have failed in 1% of the cases. The reason is due to the heavy amount of work on limited staff and sometimes power failure for the computer system. We have to declare results of three examinations in a year and then coordinate these results. It has put a heavy strain on our machinery because the U. P. Government has refused to increase our grants for the examination work. I am sure, our system would have been almost perfect if we had been allowed to spend a sum of Rs. 10 lakhs, more than which we have to spend now.
- Question :** Does this system in any way require or lead to any kind of re-alignment between the university and the colleges ?
- Answer :** The system has improved the financial position of many colleges because the number of students in previous and final classes is almost the same. The contact between university office and college office increases in this process. It also increases contact between teachers who meet almost in a mass twice a year. Many academic conferences and programmes have been organised during these meetings of teachers coming for evaluation. These meetings have also improved relations among teachers of the colleges and the university.
- Question :** Along with the introduction of the semester system which would be essentially splitting up the academic year into two equal parts and assessment at the end of each semester, what, according to you, are the pros and cons of introducing the credit system ? This is a new area experimentation and may be elaborated a little.
- Answer :** The credit system can be introduced but that depends upon the faith that students have in their teachers, the general social climate and the trust of teachers among themselves. Here the system becomes more dependent on the character of students, teachers and general public than in any other respect. We are making some experiments but the results have not always been helpful.



Sitting (L to R) Dr. M. Varadarajan, Vice-Chancellor, Madurai University ; Dr. D. Jaganatha Reddy, Vice-Chancellor, Annamalai University ; Hon'ble Dr. V. R. Nedunchezhan, Minister, Tamil Nadu Legislative Assembly, Vice-Chancellor, Tamil Nadu Agricultural University, Coimbatore ; Thiru M. M. Ghani, Vice-Chancellor, Andhra University, Waltair.

Standing (L to R) Dr. P. Govindan, Member of the Syndicate, Annamalai University ; Dr. V. Ballah, Member of the Syndicate, Annamalai University ; Dr. V. Sp. Manickam, Member of the Syndicate, Annamalai University, Annamalainagar ; Thiru M. K. Ramakrishnan, Registrar, Sri Venkateswara University, Tirupati ; Thiru M. O. Mathew, Member of the Syndicate, Annamalai University, Dharwar ; Dr. C. N. Sambandam, Member of the Syndicate, Annamalai University ; Thiru Rajarathinam, Deputy Superintendent of Police, Chidambaram.

**THE
SOUTH INDIAN**



r, Sri Venkateswara University, Tirupati; Dr. S. P. Ad-
ucation, Government of Tamilnadu; Dr. G. Rangaswami,
ncellor, Calicut University, Calicut; Thiru L. Bulayya,

Syndicate, Annamalai University; Dr. Sm. Lekshmanen,
Annamalai University; Thiru P. A. Sitapati, Registrar,
University, Tirupati. Thiru M. Gopalakrishne Reddy,
iversity; Thiru S. S. Wodeyar, Registrar, Karnatak Uni-
Kumaraswami Pillai, Member of the Syndicate, Annama-

D CONFERENCE OF VICE-CHANCELLORS ENS AT ANNAMALAI

The third Conference of South Indian Vice-Chancellors from Mysore, Andhra Pradesh, Kerala and Tamil Nadu met at Annamalai under the presidency of Dr.S.P. Adinereyan, on April 3,4 and 5.

The conference was inaugurated by Tamilnadu Education Minister, Dr. V. R. Nedunchezian. He called for evolving a greater coordination between the University and the Government to ensure grants to institutions of higher learning on the basis of "assessed" needs. The university, he said, was a place of communication and evaluation of thought, transmitted by the teacher to the taught, its main purpose being to stimulate scientific thinking. Advising Vice-Chancellors to introduce new branches of study to make post-graduate courses more dynamic, he praised introduction of the semester system—a "significant step" which should be further improved.

The meeting was attended by six vice-chancellors, four registrars and a large number of the faculty and public. There was an informal discussion between the delegates and the syndicate of the University on the evening of the 3rd. They showed a great interest in student mobility from one university to another at post-graduate and research levels with attendance credit. The

REPORT

question was also discussed of the reservation of seats for students from the "other" university in the southern region at post-graduate level on the basis of reciprocity, and of giving great encouragement to visiting professorship. Each university was asked to work out its own plans along these lines for a detailed discussion at the next session of the conference.

The following findings of the Conference may be reported.

- (i) Approval of the proposal to merge the Senate and Academic Council into a single advisory body and making the Syndicate more compact by restricting its strength to a maximum of twelve.
- (ii) Approval, in general, of the principle of student participation as recommended by the special committee of the University Grants Commission.
- (iii) Approval of the introduction of the Semester System and course work at the Master's level in Science, Humanities and Commerce and at the undergraduate level in professional courses like Engineering, Medicine and Agriculture.

The Conference favoured a five-day, six-hour week with 180 working days, holidays being cut down to the minimum. It called upon the constituent Universities to exchange syllabi and communicate improvements in the same periodically. It was of opinion that all Master degree examinations should include a viva of 50 marks. Regarding the years at School and College, it favoured the 10+2+3 formula, emphasising continued vigilant exploration of the problem of examination reform.

AN INTERVIEW WITH DR. GANGRADE ON NSS COORDINATORS' CONFERENCE

An interview with a dynamic man like Dr. Gangrade (Delhi School of Social work) could be very revealing to one genuinely interested in National Service Scheme—especially if his Committee Organiser, Mr. A.P.S. Lamba, was also around. It would have been perhaps impossible to have a glimpse of the total national scene if we had remained contented merely with hearing all the speakers—mostly coordinators—read their papers at their recent get-together at Gandhi Peace Foundation (April 22 to April 24). A major part of credit for this study to appear here in the University News ought to go to him—and Mr. Lamba.

It was the first-ever conference which afforded an opportunity to the assembled coordinators for a national-level consultation.

The Conference was a success first in registering a record attendance. Discussions were "both heated as well as peaceful." The heated part of talking related to the administrative and organisational aspects of the NSS; the cooler counsels prevailed when they veered round to the alterations in programmes and activities.

The major criticism of the first emanated from what Dr. Gangrade characterised as "tardiness" on the part of the States in releasing grants for a continued operation of the Scheme. He felt that one of the reasons for this "tardiness" was the non-allocation earlier of funds in their budget. A chronic optimist, he saw in the surrounding gloom a silver lining, too: "A major point is that both Poona and Marathwada Universities have been awarding marks for participation in the Scheme. Gujarat University students enjoy three distinct options—either to choose NCC, or NSO or NSS."

Dr. Gangrade paid glowing tributes to the work of student volunteers at Bangla Refugee camps and in Bangla Dosh: "They helped in the hospitals and the milk centres, and tended the sick and the wounded. For some, the emotional involvement with a fellow human-being in distress was so great that they even donated the clothes in which they stood! One of the Parsi girls may be particularly mentioned. She removed even the dead bodies—an action which violated Parsi religion."

Now that the Scheme is gaining a definite momentum, it is felt that the present appointment of part-time coordinators is proving a great hindrance: "Most programme coordinators have been assigned these duties in addition to their main duties as staff of the universities concerned." This has resulted in the programmes going haywire; sometimes the pro-

grammes have even been abandoned altogether. When asked if some way led out of the difficulty, both Dr. Gangrade and Mr. Lamba referred to the NSS Coordinators Seminar he'd in February last: (it made the recommendation for making them full-time).

There were other recommendations as well.

When matters relating to observance of the Silver Jubilee of the Indian Independence were being discussed at the Conference together with the outlines of a proposed national volunteer corps, the enthusiasm of Major Dayal Singh Panwar, the Coordinator at Jodhpur, could hardly be repressed: he said that if the idea was to send these volunteers to rural and other backward areas to tackle the problem of drop-outs with their parents and guardians, he would like to see the programme through to the finish at least in Jodhpur. (Incidentally, the programme, which will treat as an urgent priority health and hygiene conditions also, would ultimately succeed in plugging the loophole in implementation of the much desirable compulsory attendance of children at primary schools).

Mr. V. N. Bhide (University of Poona) reminded the conferees of a recommendation of an earlier regional seminar: "The goal of National Service Scheme should be education through community service." Holding forth the example of a child on way to school with tears flowing down his cheeks, he said: "Here's an opportunity for some one to know his problem in time" and prevent him from becoming later a problem. He also felt that to operate such a "vaguely defined scheme" was not easy without an effective organization. Besides, one could also not help agreeing with Mr. Bhide, if he saw a great irony in the appointment of permanent staff to run the affairs of the NSS out of the limited funds of Rs. 20 pro-rata. He also suggested that high-powered standing bodies be constituted if universities were being taken as "Basic Bodies". And, of course, Mr. Bhide also read a bit of poetry: "The cure for this ill is not to sit still/or frowst with a book by the fire/But to take a large hoe and a shovel also/And dig till you gently perspire".

Mr. Navale (Baroda's M. S. University) made fourteen recommendations and suggested eleven camps.

The organisational aspect was also stressed by Mr. I.P. Shilat (also from the same university). He had some fear that the word "Corps" could be misunderstood. So, he said: "Though the term is used for the force of volunteers, the NSS wants to evolve itself into a democratic organization." He also suggested

division of units on the basis of programmes, the smallest units being of five to ten volunteers. He felt that aptitude should determine group composition, and that programme planning needed adequate attention. For better effect, he cited the five goals recommended by Shri V. M. Kulkarni, a veteran social worker: goals, a strategy to achieve the goals, requirements, resources, and finally the deadline for accomplishing each.

Shri N.F. Kaikobad (T.I.S.S. Bombay) said: "A well coordinated programme has to be time-bound and target-oriented." As volunteer activities at primary schools, Shri Kaikobad suggested the holding of coaching classes after school especially for backward children, and the setting up of science clubs. It was on the cards, he felt, that the NSS would become integrated with higher education ultimately: relating its work to the Subject Syllabi would have to be undertaken sooner or later.

A thorough review of the subject syllabi in order to relate it to the National Service Scheme in the actual field work was suggested also by Professor Mabud Hasan from Aligarh Muslim University.

Professor Balwant Singh (Panjab University) felt that there was a growing feeling that the payment of honorarium to a staff member alienated the sympathy of the rest, making NSS a one-man show. He felt also that the late release of grants continued to be a big hurdle. He predicated that the NSS "could become a very important ancillary educative agency."

Mr. K. K. Kemkar (Vikram University) thought that the 1 : 100 teacher-student ratio would minimise the distinction between academic and non-academic work.

Dr. (Mrs.) Neera Desai of S.N.D. Women's University held forth this view: "The overall objective of the National Service Scheme is service to the community offered while undergoing instruction in an educational institution." She also pointed out that the implications of the lack of both "planning and training" could be best observed in village camp programmes. She came to the conclusion that "there is a good deal of enthusiasm" in the student world for the NSS.

Shri Bhattacharjee from the Gandhian Institute of Studies, Varanasi, suggested urgent research into factors which motivated students' opting for National Service.

After looking at the progress of the Conference, which was inaugurated by Shri S.N. Ranade, Hon. Advisor to the Govt. of India, one could not resist the conclusion that the optimism of the Delhi School of Social Work which sponsored it, was more than justified.

—Editor

"QUOTE...

Mr. A. R. Wadia in Education Quarterly: "The Report of the Education Commission (1964-66) has come out in a record short time."

Its implementation is likely to take a record long time!

Education Commission Report: "The key to rapid national development is dedication and hard work".

Both inside and outside Parliament!

Mr. Shib K. Mitra: "But the teacher is likely to be a bottleneck in educational development."

Let's ask the IBM to give us a computer, instead!

Comment: "Education is not a science or an entity by itself."

It's more like modern art!

Another comment in Education Quarterly: "The structural change, however, in effect, means keeping the main line of higher education relatively free from congestion."

Obviously a situation of some gravity, in which we can't do without the 7-A Plan of the Telephone Department!

Education Quarterly: "Though English has been spoken of as a foreign language, it may be asked whether it is really so."

No, not quite—only, it is written as a spoken language and spoken as a written language!

□ "If the Centre supports the States financially in increasing and improving the educational inputs, there's no reason why the Centre should not set a minimum standard below which no State shall sink..."

And the maximum above which it will not rise!

□ "Much of our failure to-day is due to faulty and inadequate processing."

We need quality inspectors in the university, too!

W.D. MIRANSHAH **UNQUOTE"**

IS HIGHER EDUCATION SPURIOUS?

By Professor G. L. Shenoy

"Higher education is at cross roads" ! "Universities are facing a crisis" ! "College education—Why?" These are some of the headlines that we read in newspapers or hear at conferences.

Under the weight of poorly motivated students who have come to look upon external examinations as a gamble, our examination system has already cracked. Mass copying and threatening invigilators have become the order of the day. Classroom lectures have degenerated into dictation of notes. Uninspiring teaching techniques have become the rule. Teacher-taught relationship has deteriorated to an extent that both love and learning are conspicuous by absence. Memorization has become the only method of learning, and application of learning in evolving methods of problem-solving is not attempted at all.

Identifying the Crisis

These are only symptoms of the malaise ; we have to look for the remedy elsewhere. Unless we diagnose what exactly the disease is, whatever remedy we may suggest will be of no avail.

What goes under the present name of higher education is no higher education but something spurious. And the disease can be traced to the unprecedented expansion of higher education during the last many years.

When growth is a problem

In 1947, the enrollment in Universities was to the order of 4 lakhs and to-day it is over 28 lakhs.

The average growth rate of higher education during the last 4 years was about 13%—all-time high. This percentage is higher than our annual growth rate which was only 4.0%, having gone down from 6.0%. If this rate of growth in higher education persists, we will be faced with a situation in which educated unemployed will act as social dynamite and disrupt society as West Bengal and Kerala.

As per Employment Exchange statistics, nearly 4,50,000 graduates and post-graduates are unemployed as on this day. And if we take into account the fact that one out of two graduates does not register his name at the Employment Exchange, it is almost certain that there are already twice the above number of unemployed. Are we going to add fuel to the fire? Are we prepared to face the fact that

unemployed young graduates are going to create a dragon society?

The plight of such unemployed can readily be imagined. The very society which has given them a high-sounding degree refuses to help them stand up on their own. They are simply left in the lurch and asked to fend for themselves. No wonder they turn back and decry the very society which has brought them up.

Some Remedies

(a) More attention to elementary education : Let us pay more attention to elementary education to which we are committed. In fact, the Directive Principles of State Policy require that compulsory elementary education has to be introduced upto the age of fourteen. Did we achieve this? In fact, here is an area where a lot can be done to improve teaching, build more schools and pay teachers better.

The percentage of literacy at the time in 1947 was only about 20; now it has increased to between 30 and 35—by no means phenomenal. Countries like China have achieved a high literacy figure by massive expansion of the system of elementary education. Even Philippines has a high literacy figure. Therefore let us make elementary education compulsory and spread it to every nook and corner of the country.

(b) Diversify education at the high school stage : It has been pointed out over and over again by many educationists that our academic course at the high school level is college-oriented and that our high school students find College education the only alternative available to them.

Making High School education diversified by providing many vocational courses should reduce pressure on Collegiate courses. Opening of what were formerly known as multi-purpose schools was a step in the right direction. The present day bias for College courses should give place to bias for a preparation for life even at the High School level.

In this connection, agriculture should find an important place in such multipurpose schools. These schools should provide an education which should be complete in itself. If the proposed junior colleges take up the challenge of such a diversified system of education, I personally feel we have yet another chance of setting right our educational system.

Will the junior colleges seize this opportunity? Time alone will tell.

(c) Boards for Colleges: The Colleges are at present affiliated to Universities whose actual function is research and post-graduate studies. At present, Universities pay scant attention to individual colleges except prescribing syllabi and conduct examinations. These functions can as well be carried out by College Boards through a system of accreditation. Let us have a College Board to which the Colleges will be affiliated under the over-all supervision of the University.

These Boards which could have under their supervision about 30 to 40 Colleges and might assist individual Colleges by giving them necessary guidance and supervision.

(d) College education at cost: In view of the general encouragement given by the central and state governments, colleges have sprung up like mushrooms. Their facilities are very meagre. And subjects offered by them require little or no investment.

Moreover, fairly liberal maintenance and teaching grants by State Governments has actually made college education cheap. In fact, the state governments pay almost the same amount, as each student pays in the form of college fees, to maintain a college. This has resulted in a situation in which even those who do not deserve to go in for higher education do so, just because it is comparatively cheaper.

If higher education is given at cost, there will be no overcrowding, and colleges will not send out an ever-growing number of graduates who cannot be gainfully employed. In such colleges, there would be the merited students enjoying state support and the rich students who could buy college education even at a high cost.

Such a situation cannot be avoided in a free society unless the government restricts admission only to those who have proved their merit. It is only in Russia that the doors of the University are open strictly for those who have shown their worth in academic studies.

(e) Massive scholarship programme: The amount thus saved by Governments in the states and centre should be channelized to give massive scholarships to all deserving students and these should be announced as soon as results are announced at the PUC SSLC level. No talented young man should go without a scholarship. In fact, there should be no poor and deserving candidates who cannot get college education at state expense.

With universal elementary education leading to academic high school or vocational studies, a young student should be in a position to discover his own capabilities by the time he has completed his high school education. If he is academically brilliant and

has proved his merit, there should be no difficulty for him to pursue his studies in a university.

On the other hand one who finds that his interests lie elsewhere is to be encouraged to pursue his interests elsewhere. By making available massive scholarships to all brilliant students, the government would automatically motivate a large segment of student population.

(f) The medium of instruction: The regional languages should be the medium of instruction at all levels with a provision for link language, like Hindi and English. The Regional language should replace English at all levels. The damage caused by having to think first in mother-tongue and then to translate it into English is enormous.

The fourteen major Indian languages are spoken by more people than the people of tiny European countries like Italy, Germany, Sweden, etc. Indian languages are more highly developed than some of the languages of South East Asian countries like Malaysia, Thailand, Korea and even Japanese. It is remarkable how Japan has developed as an instrument of modern scientific thought. Its own Japanese language consists *not* of words but *pictures*. In most of the South East Asian countries the medium of instruction is their own mother-tongue.

The question of a link language assumes great importance for India if our country is to remain united. With Hindi being understood by more than half the people of this country, it would be perfectly logical to accord Hindi this status. For sheer economic reasons, southern states will have to accept Hindi as the national language whether they like it or not. To adopt an ostrichlike policy on this matter would be just suicidal.

(g) Autonomy for Colleges: Colleges should be granted a large measure of autonomy in the matter of having their own syllabi and examination system. Even conferment of degrees should be by colleges leaving only post-graduate studies to the universities. Such autonomy will gradually increase prestige of an institute and lead finally to higher standards.

This will naturally require a large measure of integrity on the part of college teachers and management. I am quite sure our teachers will not lag behind when they perceive autonomy for Colleges as being a part of an integrated plan of raising the standards of University education.

Such autonomy will call for reorganization of the examination system. Dependence on external examination system alone will have to give place to internal assessment spread over the entire year.

(Continued overleaf...)

Selectivity—Is it possible ?

Unfortunately when the Kothari Commission recommended that an element of selectivity would have to be introduced in higher education, there was an uproar in the Parliament. No member was prepared to accept this suggestion because that would mean limiting opportunities for higher education in their own constituencies.

But the problem of higher education has to be viewed objectively in the national context rather than from a narrow point of view. To add further to these difficulties, education is not a central but a state subject. As such, each state will have to make its own decision with regard to higher education consistent with broad objectives of the national policy.

But if a decision is taken to withdraw subsidised higher education and make it available at actual cost, an element of selectivity will be automatically introduced. Higher education will then be possible only for merited students and only to those who can pay the high cost of higher education. To a large extent this would eliminate the poorly motivated students who just wander about in the corridors of the college and complete the course somehow. Appearing at will for university examinations brings down academic standards. To a large extent this will also decrease the number of unemployable college graduates.

Only under such conditions meaningful and purposeful higher education would be possible. Only under such conditions colleges will have highly motivated students who will really benefit from higher education.

A Question

It might be asked why in some advanced countries like America, higher education is being made available as in State University of New York to all by adoption of an "open admission" policy. While it is true that certain Universities there have thrown open their doors to culturally deprived groups, this is not a universal rule in America where higher education continues to be based on selectivity. Moreover an affluent country can afford the luxury of higher education for all but can a poor country like India afford it? This is the all-important question.

About the Author :

Professor G. K. Shenoy was a Fulbright Scholar in the United States (1961-63). A committed educationist, he is at present Principal of Viveka College, Nehrunagar, Puthur, S. K., Mysore.

TATA INSTITUTE OF SOCIAL SCIENCES LIBRARY

A SURVEY BY K. L. RAO

The birth of the Tata Institute of Social Sciences can be traced back to the work of American Marathi Mission and to Dr. Clifford Manshardt who originated the idea of establishing a school for training social workers in Bombay. Sir Dorabji Tata Trust agreed to his proposal; and, in 1936, Sir Dorabji Tata Graduate School of Social Work was established. In 1949, it was renamed as the Tata Institute of Social Sciences. Since 1954 the Institute is housed in its own specially designed building in Chembur.

New Building

The Library came into existence in 1936. Striking in plan and arrangement, it is one of the best professional libraries in India. In 1954, it had a modest 9000 volumes; it has grown considerably in the mean time with the assistance of U.S.A.I.D., Asia Foundation, Indian Wheat Loan, Bombay University Centenary Committee, National Buildings Organisation, U.S.I.S., British Council and, above all, the University Grants Commission, whose munificent grants since 1956 totalling around Rs. 2,55,000/- have been greatly instrumental in expansion of the library.

The Library has now nearly 31,000 volumes covering principal fields of interest in Social Work and related sciences like Sociology, Anthropology, Psychology, Psychiatry, Economics, Social Case Work, Social Group Work, Community Organisation, Social Research, Statistics, Family and Child Welfare, Medical and Psychiatric Social Work, Criminology and Correctional Administration, Housing, Urban and Rural Community Development, Public Welfare Administration. Although there are Specialized Courses and Heads of Department, there are no departmental libraries. All documents required for the use of various departments are centrally acquired and processed. In addition, it has basic reference books, like encyclopedias, and bibliographic tools, maps and charts.

Library Collection

The library has a complete set of the Census of India from 1872-1951 on microfiche. The average annual book budget for the last five years has been about Rs. 66,000. Besides, some 400 periodicals come to the Library regularly.

—Please turn to page 22

Will she lead Asia one day



Here is the incredibly amazing story of the living legend of Indira Gandhi

Eight short years ago she held a second-rank portfolio in the Shastri Cabinet. Today she is the unquestioned leader of the world's largest democracy.

Few people realized the great potentialities for political leadership that lay dormant within this modest woman of few words. These qualities came to the fore when she was locked in mortal combat with the "power group" in the Congress.

In this absorbing, action-packed narrative, Trevor Driberg traces the story of her spectacular rise to unchallenged political power right from her early childhood at Anand Bhawan when she often greeted visitors with these words: "I'm sorry, but Mama, Papa and Grendpe are all in prison."

Trevor Driberg, a veteran journalist, has been associated with some of the top-rank newspapers and news agencies in India. He presently reports for the foreign press.

CONTENTS : The Fledgling Years—Freedom Fighter—Apprenticeship in Delhi—Cabinet Minister—Head of Government—Second Innings—The Great Divide—Election Triumph—Agony and Ecstasy—The Unchallenged Leader

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Special efforts are being made to meet the needs of research in social sciences. An accelerated programme of acquisition and to fill in the gaps in the existing collection is in progress. It has already filled in the gaps in the collection of back sets of periodicals. Efforts are also being made to procure literature pertaining to Social Reform Movements in the 18th and 19th centuries in the world. Biographies of Social Reformers are also being collected.

There is a collection of "rare" and out-of-print books, too. Literature on Social Work and Social Welfare Services in India in different languages is being acquired; it already has a small collection in Marathi, Bengali, Gujarati and Kannada.

Three Shelves

There are three main divisions in the library: General Shelf, Reserve Shelf and Reference Section. From the General Shelf, three books are issued to Junior and four books to Senior students at a time; from the Reserve, one book is issued at a time only for overnight reading; the books in the Reference Section are to be consulted in the Library.

Arrangement of Collection

The library has adopted the Dewey Decimal Classification system (16th Edn.) The Catalogue is in card form and is based on A.L.A. Cataloguing Rules for Author and Title entries (1949). The library maintains a Pamphlet File and News-Paper Clipping Service for ready reference on current research.

"How to Get the Best out of Our Library?"

This pamphlet is distributed to new entrants, followed by a few lectures by the librarian on the utilisation of library resources. A brief outline of cataloguing rules, the mode of entries on cards and extracts from classification schedule is also distributed. With a view to encouraging personal collection, the Library procures for students books at concessional rates. Facilities of other libraries in the city are made available to students by a special arrangement. The Library also prepares bibliographies for members of the faculty, students and, sometimes, outside agencies upon request.

Membership

The method of instruction in the Institute is library-centred. Assignments, project reports, reading lists given to students and the "Library Periods" make students library conscious.

Bibliographical Centre

Ever since Dr. M. S. Gore took over as Director of the Institute, the library has received special care. It was at his instance that the "T.I.S.S. Bibliographical Centre" was set up in July 1964. The Centre brings out the monthly, "Documentation List", and renders other bibliographical services.

UNIVERSITY OF SAGAR

Advertisement No. R. 2/72

Applications on plain paper are invited for the post of 'University Registrar'. They should be accompanied by a postal order of Rs. 5.00 as application fee, and should state full name and address, date of birth, detailed qualifications and experience, etc., so as to reach the undersigned by name not later than 31.5.72.

2 Candidates already in service should send their applications through proper channel. An advance copy, however, may be sent direct. The application should carry a testimonial with regard to the work and conduct of the candidate from the Head of the Institution he is serving or has last served.

3. Candidates selected for an interview will have to come to Sagar at their own expense and bring with them their original degrees, certificates etc.

4. The period of probation shall be two years from the date of substantive appointment. This period of probation may, however, be extended by such further period as the Executive Council may deem fit, but the total period of probation shall in no case exceed three years. Service during the probationary period may be terminated without notice and without assigning any reason.

5. The age of retirement is sixty years.

6. Scale of pay: Rs. 1100—50—1300—60—1600 with D. A. and P.F. benefits according to University rules.

Higher starting salary in the prescribed scale may be given to exceptionally qualified and experienced candidates.

7. Qualifications: Applicants should possess a post-graduate degree and preferably a Law degree and considerable administrative experience in a responsible position preferably in a University or first grade college; experience in handling agenda, minutes and procedure of meetings; familiarity with academic activities and working procedures of educational institutions. Drive, initiative and capacity to lead a team would be considered as a desirable qualities.

Note: The University reserves the right to negotiate with suitable person or persons if necessary.

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- Readers
(Law-5; one each in Hist;
Phil; Pol. Sc; Music)
- Lecturers
(Chem-4; Spanish-1)
- University Registrar-1

INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY

Research Scholarship/Fellowships in
Sciences, Social Sciences and Humanities
1972-73 Session

Advertisement No. 713

Research Scholarships of the value of Rs. 300/- p.m. and Post doctoral Fellowships of the value of Rs. 500/- p.m. are available in Chemistry, Geology, Humanities and Social Science, Mathematics and Physics.

Excellent facilities exist at the Institute for carrying out research in many of the modern disciplines in the respective departments. Application form may be obtained from the Deputy Registrar (Academic) on request accompanied by a self-addressed stamped (50 paise plus 5 paise Refugee Relief Stamp) envelope of size 23 x 10 cms. superscribed "Application for Research Scholarship Fellowship in _____ completed

(Branch of Science)

Application forms accompanied by a crossed postal order for Rs. 5/- payable to the Indian Institute of Technology, Bombay must reach the Deputy Registrar by 20th June, 1972.

Candidates have to appear for interview at the Institute before final selection. Candidates called for interview will be paid a single III Class railway fare by the shortest route from the place of residence to the Institute and back.

Minimum Qualifications:

A first class or high second class Master's degree for research scholarship and Ph.D. degree for post-doctoral fellowship in the appropriate subjects.

Candidates who have appeared for the Master's degree examination and

are awaiting results are also eligible to apply.

The areas of specialisation are given below:

- I. Department of Chemistry: 1. Solid State Chemistry and Physics; 2. Crystal and Molecular Structure; 3. Chemical and Mossbauer Spectroscopy; Electrochemistry; 5. Thermodynamics; 6. Coordination Chemistry; 7. Analytical Chemistry; 8. Chemistry of Natural products; 9. Synthetic Organic Chemistry.
- II. Geology: (Deptt. of Civil Engg.) 1. Petrology and Mineralogy; 2. Economic Geology; 3. Engineering Geology.
- III. Department of Humanities & Social Sciences: (A first class or high second class Bachelor's and Master's degree for Research Scholarship and Ph.D degree for Post-doctoral Fellowship in the appropriate subject).
1. English; 2. Economics; 3. Philosophy; 4. Behavioral Sciences (Psychology, Anthropology, Sociology, Management Science). A candidate is required to submit a typed note of about 800 words outlining the proposed theme of research along with the application.
- IV. Department of Mathematics:
1. Functional Analysis and Approximation Theory, 2. Complex Analysis, 3. Numerical Analysis, 4. Fluid Mechanics, 5. Elasticity, 6. Statistics
- V. Department of Physics: 1. Solid State Physics, Experimental and Theoretical, 2. Nuclear Physics, Experimental and Theoretical, 3. Atomic and Molecular Structure and Spectroscopy, 4. X-ray Spectroscopy & Crystallography.

Serving teachers of Engineering Colleges who are desirous of studying for Ph.D. courses under quality improvement programme should also apply as their admission will be considered together with others.

INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY

RESEARCH SCHOLARSHIP/ FELLOWSHIPS IN ENGG./TECH.

1972-73 SESSION

Advertisement No. 714

Research Scholarships in Engineering/Technology of the value of Rs. 300/- p.m., Research Fellowships of the value of Rs. 400/- p.m. and post-doctoral Fellowships of the value of Rs. 500/- p.m. are available in the following Departments of the Institute. Details of the research facilities and programmes of the various Departments will be

available from Deputy Registrar (Academic).

Applications in prescribed form obtainable from Deputy Registrar (Academic) on request accompanied by self-addressed stamped (50 paise plus 5 paise Refugee Relief stamp) envelope of the size 23x10 cm superscribed "APPLICATION FOR RESEARCH SCHOLARSHIP/FELLOWSHIP IN _____"

(Branch of Engineering)

Completed application forms accompanied by cross postal order for Rs. 5/- payable to the Indian Institute of Technology, Bombay, must reach him at the Institute by 20th June, 1972.

Candidate called for interview will be paid a single III class railway fare by the shortest route from the place of residence to the Institute and back.

The areas of research in which facilities are available and the minimum qualifications required are given below:

1. Aeronautical Engineering: (1) Propulsion (2) Aerodynamics (3) Aircraft Systems (4) Flight Dynamics.

2. Chemical Engineering: (1) Automation in Chemical Industries (2) Inorganic Process Industries (3) Organic Process Industries (4) Technology of Fuels, (5) Technology of Silicates, (6) Unit Operations.

3. Civil Engineering: (1) Hydraulic Engg. (a) 1. Theoretical Fluid Mechanics, 2. Ground Water Flow, 3. Free Surface Flow (b) Soil Engg.: 1. Basic Soil Mechanics, 2. Soil Stabilization, 3. Foundation Interaction Problems and Earth Dam Problems, 4. Dynamics of Soil Media, 5. Mechanics of Swelling Soil Media, 6. Rock Mechanics.

(c) Structural Engineering: 1. Materials of construction, 2. Static and Dynamic problems in framed and grid structures (buildings, bridges etc.) and thinwalled structures (plates and shells used in pressure vessels and other complex structures), 3. Systems analysis and probabilistic design, 4. Optimization, 5. Numerical methods and computer programming, 6. Biomechanics.

4. Electrical Engineering (Including Electronics). 1. Rotating Machines, 2. Power Systems Protection, 3. Control Systems, 4. Instrumentation (integrated circuits), 5. Solid State Microwave Devices and Integrated circuits, 6. Microwave Engineering, 7. Communication Theory and Systems, 8. Thin Film Technology.

5. Mechanical Engineering: 1. Machine Tool and Metal Cutting, 2. I.C. Engineering, 3. Fluid Mechanics and Fluid Machinery, 4. Thermodynamics and Heat Transfer, 5. Refrigeration and Air Conditioning, 6. Metal Casting and Metal Forming.

6. Metallurgical Engineering: 1. Physical Metallurgy, 2. Ferrous and Nonferrous Process Metallurgy.

Minimum Qualifications :

(i) A good Bachelor's degree in appropriate branch of Engineering for Research Scholarship of Rs. 250/- p.m. For research scholarships in Department of Chemical, Electrical or Metallurgical Engineering, candidates with a good Master's degree in Mathematics, Physics Chemistry will also be eligible. Candidates with a Master's degree in Chemical Technology are also eligible for research scholarships in some fields in Chemical Engineering.

All Research Scholars holding Bachelor's degree in Engineering and starting with Rs. 250/- p.m. will be eligible for consideration for Research Scholarship of Rs. 400/- p.m. after two year's Study/Research.

(ii) A good Master's degree in appropriate branch of Engineering/Technology for Research Fellowship of Rs. 400/- p.m.

(iii) A Ph.D. degree in appropriate branch of Engineering/Technology for Post-doctoral Fellowship of Rs. 500/- p.m.

Candidates who have appeared at a qualifying examination and are awaiting results are also eligible to apply.

SERVING TEACHERS OF ENGINEERING COLLEGES WHO ARE DESIROUS OF PROSECUTING THEIR STUDIES FOR PH. D. COURSES UNDER QUALITY IMPROVEMENT PROGRAMME SHOULD ALSO APPLY AS THEIR ADMISSION WILL BE CONSIDERED TOGETHER WITH OTHERS.

INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY

Powai, Bombay-76 (NB)

Advertisement No. 715

Admission to Postgraduate Degree/
Diploma Courses in Engineering
(1972-73 Session)

Applications are invited for admission to the following post-graduate courses leading to the DEGREE OF MASTER OF TECHNOLOGY (M. TECH.) in:
(i) AERONAUTICAL ENGINEERING
(ii) CHEMICAL ENGINEERING
(iii) CIVIL ENGINEERING
(iv) ELECTRICAL ENGINEERING INCLUDING ELECTRONICS
(v) MECHANICAL ENGINEERING
(vi) METALLURGICAL ENGINEERING and the following postgraduate diploma courses (DIT) :
Chemical Engineering Department (1) FURNACE TECHNOLOGY. Civil Engineering Department (1) DOCK & HARBOUR ENGINEERING (2) APPLIED HYDROLOGY.

The M. Tech. courses are of two academic years' duration. The DIT

courses are of one academic year's duration. Both the courses are scheduled to start on 31st August 1972. Scholarships of Rs. 250/- p.m. are awarded to unsponsored students admitted to these courses. Hostel accommodation is available to all students.

Candidates will be selected by a test and interview at the Institute at Bombay. The candidates are to meet their own expenses for interview.

Minimum Qualifications :

M. TECH. COURSES

A Bachelor's degree in the appropriate branch of engineering (Aeronautical, Chemical, Civil, Electrical, Electronics, Telecommunication, Mechanical or Metallurgical) with at least 55 per cent Marks in the qualifying examination or an equivalent qualification obtained by virtue of an examination, as recognised by the All India Council of Technical Education.

Candidates with a Master's Degree in Physics with Wireless/Electronics/Radio Physics, as special subject (s) will also be considered for admission to some of the courses in Electrical Engineering-Electronics, provided they have passed the qualifying examination with at least 55 per cent marks.

Candidates belonging to scheduled caste/tribe will be considered for admission provided they have obtained at least 50 per cent marks at the final examination.

D. I. T. COURSE

Furnace Technology :

At least a second class Bachelor's degree in Chemical, Mechanical or Metallurgical Engineering, Silicate or Fuel Technology, or equivalent qualification by virtue of examination as approved by the All India Council of Technical Education.

Dock & Harbour Engg. :

At least a Second Class Bachelor's Degree in Civil Engineering.

Applied Hydrology :

At least a Second Class Bachelor's degree in Engineering, or a good Master's degree in Science (Physics, Chemistry, Mathematics, Geology, Geophysics, Meteorology, Agriculture).

Candidates who have appeared at the corresponding qualifying examination and are awaiting results, are also eligible to apply.

Experience in a relevant field will be considered desirable qualification. Other things being equal, candidates with experience in the relevant field and those sponsored by Government, Quasi-Govt., Educational or Industrial Organisations will be given preference.

Serving teachers of Engineering Colleges who are desirous of prosecuting

studies for the M. Tech. courses under **QUALITY IMPROVEMENT PROGRAMME** should also apply as their admission will be considered together with others.

The following electives are offered for the M. Tech. courses for the 1972-73 Session :

Aeronautical Engineering

1. Aircraft Design and Production
2. Aircraft Propulsion (Graduates in Civil and Mechanical Engg. are also eligible.)

Chemical Engineering

1. Automation in Chemical Industries
2. Electrochemical Technology
3. Inorganic Process Industries
4. Organic Process Industries
5. Technology of Cellulose
6. Technology of Fuels
7. Technology of Silicates
8. Unit Operations.

Civil Engineering

1. Hydraulic Engineering
2. Soil Engineering
3. Structural Engineering.

Electrical Engineering

1. Communication Engineering
2. Electron Devices Technology
3. Energetic
4. Instrumentation, Control and Computers.

Mechanical Engineering

I. Design and Production Group

1. Machine Tool Engineering
2. Machine Design
3. Metal Forming and Metal Casting.

II. Heat and Power Group

4. I. C Engineering
5. Refrigeration Engineering
6. Thermal Power Engineering
7. Thermal Systems Engineering
8. Fluid Power Engineering.

Graduates in Aeronautical Engg. are eligible for admission to electives at (1), (4) and (8).

Metallurgical Engineering

1. Extractive Metallurgy
2. Ferrous Process Metallurgy
3. Physical Metallurgy.

Application forms can be had from the Deputy Registrar (Academic) by enclosing a self-addressed stamped (50 paise plus 5 paise Refugee Relief stamp) envelop of size 23x18 cm and superscribed "Admission M.Tech./DIT course in (Mention here Branch of Engineering/Course Completed application with Indian Postal Order for Rs. 5/- must reach the Deputy Registrar (Academic) by 30th June 1972

INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY

POWAI, BOMBAY-76

ADVERTISEMENT No. 716.

Admission to M. Sc. courses in Science subjects 1972-73 Session.

Applications are invited for admission to M. Sc. courses in :

- 1) Applied Geology Duration : 3 years
- 2) Chemistry Duration : 2 years
- 3) Mathematics Duration : 2 years
- 4) Physics Duration : 2 years

The courses are scheduled to start on 1st August 1972. Students are required to reside in the Institute Hostels.

Candidates will be required to appear for interview and a written test at the Institute at Bombay at their own expenses on an assigned date.

The Institute provides financial assistance in the form of scholarships and freeships. Scholarships of Rs. 75/- p.m. each are awarded to 25 per cent of students admitted to each course. In addition 10 per cent of the students may be awarded free tuition on grounds of need.

Minimum Qualifications :

Applied Geology :

A Bachelor's Degree in Science with Geology as the Principal subject and Physics or Chemistry or Mathematics as other subject(s) with at least 55 per cent marks at the final examination.

Chemistry :

A Bachelor's Degree with Chemistry (main) and Physics (subsidiary); or Physics (main) and Chemistry (subsidiary) or Chemistry, Physics and Mathematics with at least 55 per cent marks at the final examination.

Mathematics :

A Bachelor's Degree with Mathematics (Major/Minor) and Physics (Minor/Subsidiary), or with Mathematics, Physics and Chemistry, with minimum 55 per cent marks at the final examination.

Physics :

A B. Sc. (Hons.) Degree with Physics (main), Mathematics (subsidiary) or Mathematics (main), Physics (subsidiary) or B. Sc. with Physics, Chemistry and Mathematics with at least 55 per cent marks at the final examination.

CANDIDATES BELONGING TO SCHEDULED CASTE/TRIBES WILL BE CONSIDERED FOR ADMISSION PROVIDED THEY HAVE OBTAINED AT LEAST 50 PER CENT MARKS AT THE FINAL EXAMINATION.

Notwithstanding the above, a candidate possessing Bachelor's Degree in Engineering of this Institute and wishing to seek admission to M. Sc. courses in Physics, Chemistry or Mathematics may be considered on individual merits of the case.

Candidates who have appeared for the corresponding qualifying examination in May/June 1972 and are awaiting results are also eligible to apply.

The course in **APPLIED GEOLOGY** comprises work on different subjects, work on an assigned problem and geological field work. The specialisation would largely be in the areas of Engineering geology, Mineralogy, Petrology and Economic geology.

The course in **CHEMISTRY** offers excellent opportunities for training in Chemistry on modern lines. This includes Quantum Chemistry, Statistical thermodynamics, Solid state Chemistry and Physics, Crystal and molecular structure, Chemical and Electrochemical kinetics, Physical Organic and Inorganic Chemistry, Reaction mechanism, Natural Products Chemistry, Co-ordination and analytical Chemistry, Chemical instrumentation and Application to analytical problems.

The course in **MATHEMATICS** offers excellent opportunities for a broad based training in Mathematics on modern lines. The contents cover basic areas of Pure and Applied Mathematics with Statistics and Operations Research and Numerical Analysis and Computer Programming. In the second year some scope is provided for advanced training in one of these areas. The course is designed to make it useful either for teaching and research in Mathematics or industry oriented careers.

The course in **PHYSICS** has been designed to give the students a good preparation in the basic subjects such as Classical and Quantum Mechanics, Electromagnetic theory and Mathematical Physics. Workshop practice and Electronics are taught to all students by engineering faculties. In second year there is scope for specialisation in certain branches of Physics.

Application forms can be had from the Deputy Registrar (Academic) by enclosing a self-addressed stamped (50 paise + 5 paise Refugee Relief Stamp) envelope of size 23x10 cms. superscribed "Admission M. Sc. course(s) in.....".

Completed applications with Postal Order(s) of the value of Rs. 5/- must reach the Deputy Registrar (Academic) by 16th June 1972.

INSTITUTE OF MEDICAL SCIENCE BANARAS HINDU UNIVERSITY M.D./M.S. Admission Notice

Applications are invited for admission to the following Post-graduate Degree courses for the session starting from July 1972.

The candidates applying for the above courses should complete their House job by 30th June, 1972, respectively.

M.D./M.S.

M.D. : Physiology, Pharmacology, Pathology, Biochemistry, Biophysics, Microbiology, Preventive and Social Medicine, Anaesthetic,

siology, Forensic Medicine, Dermatology, Venereology and Leprosy, Tuberculosis & Respiratory Diseases, and Radiology-Radio-Diagnosis.

M. S. : Ophthalmology, Obstetrics and Gynaecology, Anatomy.

DURATION

M. D./M. S. Course—2 Years. In Basic Sciences subjects—candidates are also eligible for registration immediately after the completion of Internship. The duration of the course in such cases shall be 3 years.

The candidates must be registered with the State Medical Council.

Qualifications for admission

(a) M.B.B.S. or an equivalent degree of a University recognised by the Medical Council of India on Schedule A, (b) After passing the final MBBS examination, the candidate must have completed requisite pre-registration, compulsory rotating Internship (Housemanship) training of : (i) 1 year in case of 4½ years course, (ii) 6 months in case of 5 years MBBS course as the case may be. (c) After having completed the compulsory rotating Internship (Housemanship) the candidate should have worked as a House Officer for a period of one year or worked in the Department concerned for a similar period.

Prescribed application forms and particulars can be obtained from the Office of the Director, Institute of Medical Sciences, B.H.U., Varanasi, on payment of Rs. 1.50. Separate applications will be required for each course. The last date of receiving complete applications forms will be 10-5-1972.

(K. N. UDUPA)

Director

Are you a university looking for talent ?

You'll find it in these columns !

(Others will, too . . . if you advertise here !)

ANDHRA UNIVERSITY

Correspondence Courses

Applications are invited from qualified candidates within India for admission to the following Correspondence Courses which will be started from the academic year 1972-73. The Courses shall commence from 1-7-1972.

1. First Year of Three Year B.A. Degree (History, Economics and Politics)
2. First Year of Three Year B. Com. Degree.

Media of Instruction :- English and Telugu.

Intending candidates may write to the undersigned for Prospectus, Syllabus and Application Form by sending Rs. 5/- (Rupees Five only) by Money Order.

Waltair, Prof. K. V. SIVAYYA
P.O. 14-4-72 Honorary Director

THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA

Notification No. 2

Application are invited in the prescribed forms for the following posts in the Faculty of Arts.

(1) Professor of English (2) Professor of Sociology (3) Reader in Political Science.

Scale of Pay :

- (i) Professor : 1100-50-1300-60-1600
(ii) Reader : 700-50-1250

Plus D.A., P.F., H.R.A., and Gratuity benefit as per rules.

Prescribed application forms and details of qualifications will be available from the Registrar on pre-payment of Crossed Postal Order of Rs. 1/- only. The application form should be accompanied by Crossed Postal Order of Rs. 50 and should reach the Registrar on or before 10th May 1972.

Only the most suitable candidates shall be called for interview.

K. A. Amin

MS., University Registrar
University of Baroda
Baroda, 8th April, 1972.

No. ADE/H/SEL/109

INSTITUTE OF TECHNOLOGY BANARAS HINDU UNIVERSITY

Admission Advertisement for 1973-73
(For post graduate courses and for a limited number of seats in under-graduate courses)

The Institute of Technology, Banaras Hindu University, comprises the following nine Departments :

1. Department of Ceramic Engineering.
2. Department of Chemical Engineering-Technology.

3. Department of Civil and Municipal Engineering.
4. Department of Electrical Engineering.
5. Department of Electronics Engineering.
6. Department of Mechanical Engineering.
7. Department of Metallurgical Engineering.
8. Department of Mining Engineering
9. Department of Pharmaceutics.

The Institute offers five-year undergraduate courses leading to the Bachelor's Degree in the respective subjects except in case of Pharmaceutics where a four year under-graduate course leads to the B. Pharm. Degree. Two-year post-graduate courses leading to the Master's Degree are also offered by all the Departments. Facilities for research leading to the Ph.D. Degree are available in all Departments and information regarding the same can be obtained from the Director of the Institute or the respective Heads of the Departments.

Admission to post-graduate course :

Application for any of the two-year post-graduate courses must be made on prescribed form obtainable from the Director, Institute of Technology, on payment of Rs. 2/- (Rupees Two only) in money order or crossed postal order. The last date for submission of application to the Director's Office is 15th July, 1972.

The minimum qualification for admission to the Master's Degree course will be the Bachelor's Degree in the appropriate subject with a minimum of 55% marks in the aggregate of the degree examination. Scholarships of the value of Rs. 250/- p.m. are available to candidates admitted to the Master's Degree Courses.

The detailed information in respect of specialization and electives offered by different departments may be had on application accompanied by a self-addressed stamped envelope.

Admission to Under-graduate course :

Admission to a limited number of seats in the FIRST year B. Pharm. Course as well as to a limited number of seats in the SECOND year of all the under-graduate courses will be made for the 1972-73 session commencing in July, 1972. ADMISSION WILL BE ON AN ALL INDIA BASIS AND ACCORDING TO MERIT. Application forms, which are common to all under-graduate courses can be had by Registered Book-Post on remittance of Rs. 2/- (Rupees Two only) through a crossed postal or by money order to the Director, Institute of Technology, Banaras Hindu University, Malviyanagar P.O., Varanasi-5, on or before 19th June, 1972. Local purchase of application forms against each payment will also be possible upto 19th June, 1972. The last date for submission of applications at the Director's Office is 26th June, 1972.

Candidates for admission to the under-graduate courses should have passed one of the following examination with at least 50% marks in aggregate of Science subjects and also in the total aggregate.

For the First Year B. Pharm: (i) Pre-University Examination in Science of the Banaras Hindu University with Physics, Chemistry and Biology, or (ii) Senior Cambridge Examination or the Indian School Certificate Examination with Physics, Chemistry and Biology; or (iii) Higher Secondary Examination of any Board or University with Physics, Chemistry and Biology; or (iv) Such other examination conducted by either Boards, or Universities in the Indian Union which are declared equivalent to or higher than any one of the above by the Banaras Hindu University.

For the Second Year, All Departments :

(i) I. Sc. Examination with Physics, Chemistry and Mathematics; or (ii) Pre-Engineering or Pre-Professional Course Examination in Technology or Engineering recognised by the Banaras Hindu University or (iii) B. Sc. Part I Examination of a three year-degree course, if it is University Examination, with Physics, Chemistry and Mathematics or I. Pharm., or Pre-Medical Examination, or the B. Pharm. course only) or (v) any other Examination recognised or equivalent to or higher than any one of the above by the Banaras Hindu University.

Note : For admission to the 'B. Pharm. Course only, the Science Subjects in the qualifying examination can also be Physics, Chemistry and Biology or both Botany and Zoology.

The candidates may apply for admission even if they have only appeared at the qualifying examination and are awaiting the results, but they should forward the results immediately on their availability. They should possess robust health and must satisfy the requirements of physical fitness with regard to height, weight, chest and vision, as laid down in the application form.

General Information

All students admitted to the Institute of Technology are required to reside in the hostels of the Banaras Hindu University, unless specially permitted by the authorities to live with their parents or guardians.

In addition, students in all courses will have to go on tours and undergo practical training in the vacations.

Scholarships of Rs. 75/- p.m. will be available to some of the students admitted to the Bachelor's Degree Courses. In addition, a few National Scholarships as well as a number of freeships are available to deserving students.

S. S. SALUJA
DIRECTOR



PUNJAB VICE CHANCELLOR WITH THE P.M.

The day was wednesday, April 26. Mr. Suraj Bhan, Vice-chancellor of the Panjab University had specially come to the Capital with a precious packet of money and good wishes—both contributed in good measure by students and the staff of his university. While his wife watched the proceeding with animated interest, Mr. Suraj Bhan presented the cheque for Rs. 2.40 lakhs to a smiling Mrs. Gandhi for the National Defence Fund. (Incidentally, this would bring the total contribution of the Panjab University to the NDF to over Rs. 3.5 lakhs).

UNIVERSITY OF DELHI DELHI-7

Applications are invited for the following posts :

1. History—One Reader in Modern Indian History.
2. Philosophy—One Reader in Indian Philosophy.
3. Law—(i) Five Readers—Three Permanent (including one in Labour Law); and two temporary, (ii) Two Part-time Lecturers for Evening Law Centre (I).
4. Chemistry—Four Lecturers.
5. Music and Fine Arts—One Reader in Karnatak Music.
6. Modern European Languages—One temporary Lecturer in Spanish.
7. Botany (Centre of Advanced Study)—Two Senior Research Fellowships.

The Scale of pay of the posts are :-

1. Reader—Rs. 700-50-1250
2. Lecturers—Rs. 400-40-800-50-950.
3. Senior Research Fellowships—Rs. 500/- fixed without allowances.

The posts (other than that of Senior Research Fellowships) carry Dearness, City Compensatory and House Rent Allowances as admissible according to the University rules in force from time to time.

A contingency grant of Rs. 1000/- per annum is admissible for a Senior Research Fellow.

I. General Qualifications

(a) For Readership

Good academic record with a first or high second class Master's degree followed by a Doctorate degree or equivalent published work in the subject concerned.

Independent published work (in addition to the published work referred to above) with at least five years teaching experience in Honours/Post-Graduate classes essential.

(b) For Lectureships

Good academic record with a first or a high second class Master's

Degree or an equivalent Degree of a foreign University in the subject concerned.

(c) For Part-time Lectureship in Law

Good academic record with first or high second class Bachelor's or Master's Degree in Law. Practice at the Bar for at least 5 years of which at least 3 years should have been in the trial Courts. Previous teaching experience desirable.

(d) For Senior Research Fellowships in Botany (Advanced Course)

Good academic record with first or high second class (above 55% marks) M. Sc. Degree in Botany fellowship by a Doctorate Degree; or equivalent research work knowledge of Plant Morphology and Embryology essential; experimental studies desirable.

II. Special/Desirable Qualifications

1. For Readership in Indian Philosophy.

(a) Specialization in Indian Philosophy with adequate knowledge of Sanskrit.

(b) Specialization in any aspect of Western Philosophy.

2. For Lectureships in Chemistry

(a) Specialization in Inorganic Chemistry.

(b) Research experience, published works in Inorganic Chemistry and teaching experience of the Degree/post-graduate classes is desirable.

3. For Readership in Karnatak Music

(a) Special qualifications

Proficiency in Music with a high standard of performance.

(b) Desirable qualifications

(i) A Doctor's Degree. (ii) Ability to guide research. (iii) Knowledge of Sanskrit. (iv) A working knowledge of any three of the languages mentioned and acquaintance with musicological work in them :

English, Telugu, Tamil, Malayalam, Kannada.

4. For Temporary Lectureship in Spanish.

Training and experience in modern method of teaching the language.

The tenures of Senior Research Fellowships are initially for a period of two years but further extension by one year is possible and will be awarded to those persons who are below the age of 40 years.

Applications for the Senior Research Fellowships in Botany may be made on plain paper giving details of age, academic qualifications, experience of teaching, research and publications etc. and be sent to the Head of the Department of Botany, University of Delhi, Delhi-7, direct.

The prescribed application forms for the other posts can be had from the Registrar Office (Room No. 9) either personally or by sending a self-addressed envelope and stamps worth Rs. 1.35 Paise to cover postage.

Applications alongwith the attested copies of Degree and other Certificates etc. should reach the undersigned not later than 14th May, 1972.

Note :- 1. It will be open to the University to consider the names of suitable candidates who may not have applied. Relaxation of any of the qualifications may be made in exceptional cases in respect of all posts on the recommendations of the Selection committee.

2. Candidates called for interview for the posts of Readers and Lecturers will be paid travelling allowances as per rules.

3. Convassing in any form by or on behalf of the candidates will disqualify.

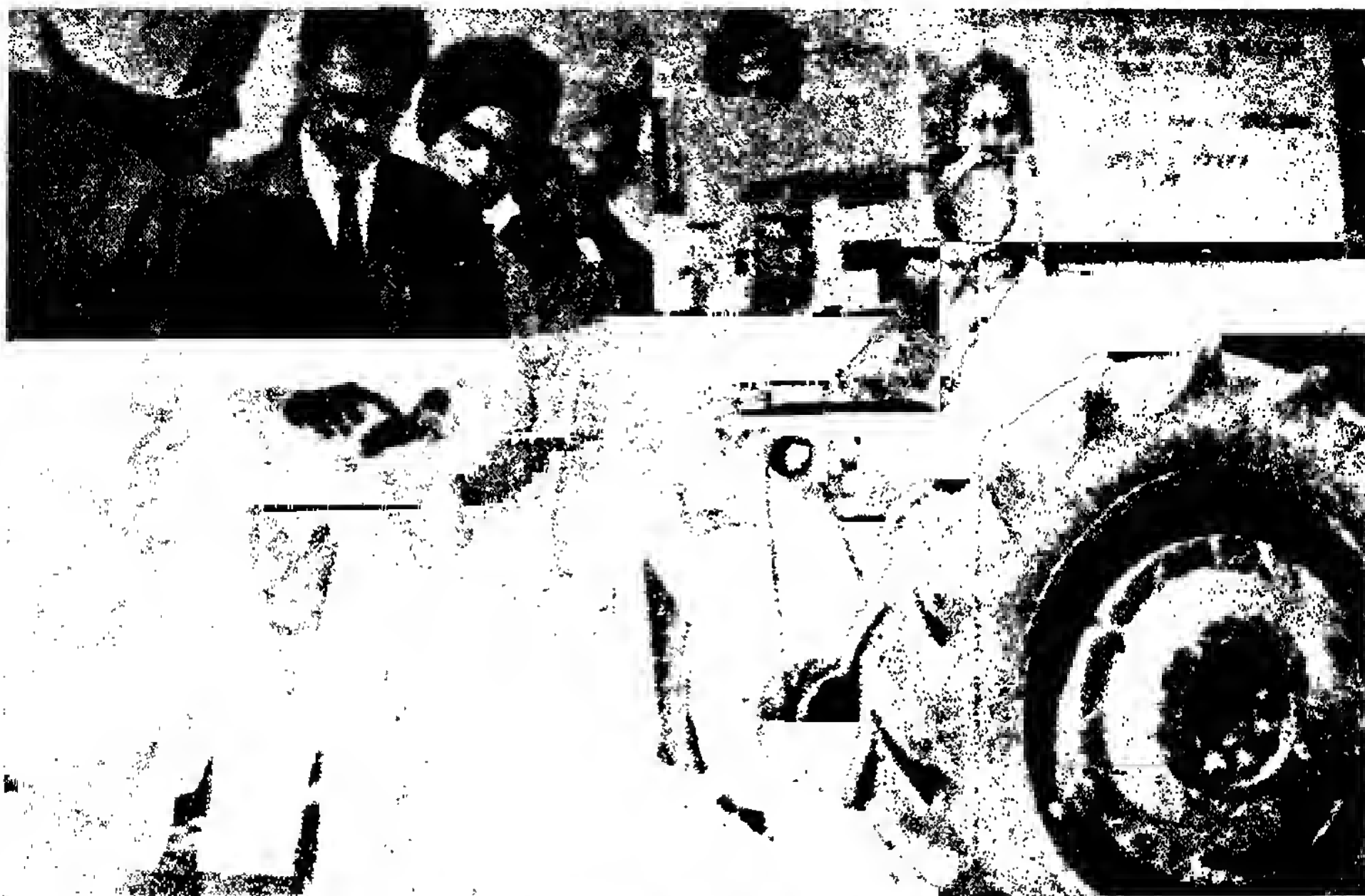
(K.P. Govil)
Registrar



A MONTHLY CHRONICLE OF HIGHER EDUCATION AND RESEARCH

Will someone
give him
the key?

THE TRACTOR THAT WILL MOVE ON ITS OWN !



Dr. Engira (wearing suit) explaining working of the remote control tractor to farmers.

One of the major attractions in the industrial exhibition during the Kisan Mela was a tractor driven by a remote control system. The device prepared by Dr. R. M. Engira, Officer-in-charge of the Instrumentation Cell of the Agricultural Engineering College may make it possible to drive a tractor on the farm without the driver having to sit on the machine. A DC servo control system was used for steering and electromagnetic valve-operated hydraulic system for controlling the clutch release. This arrangement is good enough for slow speed. Born in 1941, Dr. Engira obtained his master's degree in 1969 and a doctorate in 1971 from the Ohio State University, USA. Presently he is engaged in improving the device to make it suitable for faster speed. This will be possible when the hydraulic system, currently in progress at PAU, Ludhiana, is completed.

moving towards autonomy ...

UNIVERSITY NEWS

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● THE COVER

The picture taken by Ranbir Rakhshi portrays a common Indian child struggling unsuccessfully with the invincible fortress of educational opportunity (Story on pages 20 & 21)

- ☐ Editorial (facing) feels the breath of spring named autonomy.
- ☐ The Kerala University Resolution of May 9 (Page 4) that created a noise recently—reported fearlessly.
- ☐ The News which made news (pages 5 to 15)
- ☐ On page 16 comes the much awaited article from Vice-Chancellor K. L. Joshi on his fond theme: A Central Ministry for Higher Education.
- ☐ It's followed by good and informed criticism of his proposals—in a letter from Prof. M. S. Rajan, presently Asian Fellow at the Australian National University.
- ☒ How does our examination system look to a foreigner? An interesting interview (pages 22 & 23) with Dr. Hill of Michigan State University—conducted by Dr. Amrik Singh
- ☐ Vocational Courses at Delhi University. Their architect, Dr. P. L. Malhotra spells out the new strategy (same two pages)
- ☐ And, of course, Quote...Unquote (on page 25)

Editor—W. D. Miranshah

The idea of autonomous colleges seems to be catching on. The Birla Institute of Technology, Ranchi, was the first to move in this direction. Less than two months ago Osmania University appointed a committee to work out the details of a proposal for giving autonomy to certain colleges. Subsequently the committee was enlarged to include other universities of Andhra Pradesh also. Altogether the matter is being given detailed consideration.

Another institution to take active interest in the proposal is Meerut College, Meerut. Founded over 70-80 years ago it is one of the leading colleges of Uttar Pradesh. With an enrolment of 4700 students and more than 20 post-graduate departments, the college seems to possess some of those favourable factors which ought to exist when a college is made autonomous. The Vice-Chancellor of Meerut University is also in favour of the college becoming autonomous. To consider the various issues which will have to be faced if the college becomes autonomous, a meeting of the Heads of Department and some others was held on the 23rd of May, 1972 at Meerut. In addition to Dr. J. N. Kapur, the Vice-Chancellor, Dr. Amrik Singh also attended. As a result of discussions, the committee decided to appoint a self-study Group to consider the proposal in further detail. The Group is expected to report by the end of June or the beginning of July. In terms of the Meerut University Act there is provision for autonomous colleges. But if some additional provisions have to be introduced in statutes, ordinances, etc., this may be done by the Court of Meerut University at its next meeting as a result of the recommendations made by this Self-Study Group.

There is considerable talk of autonomy even in Delhi University. A number of proposals in regard to this new feature of academic organisation have been mooted. None of them can so far be said to have been accepted. But the thing is in the air and some further developments in this regard are eagerly awaited.

The idea seems to be catching on. Which university takes the first step however is something that remains to be seen.

Minorities Haunt Majority in Kerala University Senate

From Our Own Correspondent

What happened on May 9?

A resolution seeking the abridgement of minority right to establish and administer educational institutions was passed at a special session of the Kerala University Senate after a four hour long debate on 9th May 1972. The resolution got through with a 23-member majority vote in the 112-member Senate. Thirty one members participated in the debate over this controversial issue which generated some heat and emotion.

The Resolution was moved by the Pro-Ruling Congress Student wing leader and a former Kerala University Union President, Mr. M. M. Hassan.

What was the Resolution about?

The resolution requested "the State and Central Governments to amend suitably the Fundamental Rights of the minorities under Article 30(i) of the Constitution so that institutions run by religious minorities with state aid could be brought under the power of the State to impose necessary control and restrictions." A similar resolution fell through in the March session of the Senate for want of a quorum, while the debate was in progress, and the special session held on May 9, was convened by the Vice-Chancellor at the request of 29 members of the Senate including a few from the University Syndicate.

And Why.....

In Kerala most of the educational institutions are run by private agencies. There is discontent among the public of Kerala because of the way in which most of these educational institutions are functioning. Some of them are notorious for their malpractices, which include demanding premia for appointment of teachers, and imposition of capitation fee from students for admission. With postgraduate departments functioning in many

private colleges, a student can get a seat in the postgraduate class in one of these corrupt colleges by paying a capitation fee, and if he manages to get a second class, he can get a job in the same college by paying a large sum of money as premium. Not that every private college indulges in such corrupt practices. But a few do. Not that all such colleges, which adopt such corrupt practices, belong to minority communities. Several of the colleges belonging to the majority community have also a bad reputation.

NOTE BOOK

.....And How?

So what is needed is a control on the quality of admissions and on the quality of recruitment of teachers to all private colleges, whether belonging to minority communities or the majority community. But even those colleges which do not take a bribe in appointing their staff or any capitation fee for admitting students show gross favouritism in the appointment of staff and in the admission of students. Communal and still narrower sectarian

considerations determine most of the appointments in the private colleges, even in the best of them. Provisions made in the Act to bring in control over admission of students and appointment of teachers were challenged by colleges run by minority communities on the ground of minority rights. Of the 102 colleges affiliated to Kerala University, 61 belong to one or another of the minority communities. The remaining 41 colleges are administered either by Government or by the majority community. This is a unique feature of Kerala, quite unlike other States in India. The really powerful communities which run colleges in Kerala are the minority communities. So if these 61 colleges cannot be regulated in regard to appointments of teachers and admission of students, not much useful purpose will be served by only regulating the colleges run by the majority community. So when the colleges run by minority communities got the Supreme Court decision annulling the provisions regulating appointments of staff and admission of students to those colleges, the Government of Kerala decided not to enforce those regulations even in colleges run by the majority community. So the point of view expressed by the Senate to abridge minority rights to the extent necessary to regulate admission of students and appointment of teachers to colleges, which depend mostly on Government grant, is, in my opinion, reasonable.

CO-RESIDENCE?

The five oldest Oxford Colleges—Brasenose, Jesus, Wadham, Hertford and St. Catherine's—will break their all-male tradition from October 1974 when they initiate a five-year experiment in co-education and co-residence.

Another famous college—Corpus Christi—will also admit women Fellows and post-graduates. The other university which has already set the ball rolling by admitting women undergraduates is Cambridge.

Committee For Improving Bihar Universities Meets

PATNA, May 27. The seven-member committee appointed by the State Government to suggest measures for improvement in the working of universities in Bihar held its first meeting today at the Secretariat.

Mr. Zavar Hussain, former Education Minister and Chairman of the committee sketched the functions of the Committee. The affairs of universities were reviewed, with special reference to academic, administrative and financial irregularities.

Among those who participated in the discussion were: Mr. Sachin Dutt, Vice-Chancellor, Patna University, Prof. D.N. Sharma, Head of the Department of Hindi, Patna University, Dr. B.R. Seth, Director Birla Institute of Technology, Mesra, Ranchi, Dr. B. Mukhopadhyaya, Director Health Services Bihar, Mr. N.D.J. Rao, Education Commissioner and Mr. V.V. Nathan, Member Secretary.

● Patna May 2—The Chief Minister, Mr. Kedar Pande, announced at a press conference here that an ordinance for setting up the Mithili University at Darbhanga in North Bihar would be promulgated.

Bangla Desh student gets scholarship for studies in India

It was recently announced in Calcutta on behalf of the Secretary of the women's wing of the Awami League that five seats would be reserved for Bangladesh students sponsored by the Bangladesh Women's Association, in the Jawahari Devi Birla Institute of Home Science—an affiliate of the Jadavpur University.

A scholarship of Rs. 250 per month has already been awarded to a first such student from Bangladesh for doing his B.Sc. in the next academic session.

Dacca University Boys in Town

A twenty four member student group arrived in the Capital on May 2 in response to invitation from several universities.

The group has twenty-four students of the Dacca University and is led by a lecturer of the Sociology Department. The Bangladesh visitors will utilise the period of their stay both as a goodwill and study tour of universities.

ALIGARH GETS A NEW LOOK !

The Parliament passed the Aligarh Muslim University (Amendment) Bill on June 2.

The Education Minister, Prof. S. Nurul Hussain, who deftly piloted the bill, remarked that he wished to preserve both the academic and the historical aspects of the University's character. "The Bill is in line with the Government, declared policy on Central Universities," he said.

The Bill will restore to the university elective governance and is perhaps the very first step that seems to re-model university administration pursuant to the recommendations of the Gajendra-gadkar Committee; it incorporates most of them.

Aligarh University has now a national status. The Bill has done away with Affiliation, thus ensuring the residential character of the University. Donors have gone, too—like the over-ruling powers of the Court, whose functions will now be "deliberative." External members' inclusion in the Court will look like a good safeguard against "insularity." The Academic Council and other such bodies will now have substantial teacher representation. The office of Chancellor is also no more elective.

Mrs. Sharda Divan to New York !

Most good things start in New York but hardly the New Yorkers ever seem to know about them. Let us hope that this time they reverse this trend—at least for the short period from 19th to 29th June.

Between these two dates, something of great significance will be afoot at the United Nations Headquarters situated right in the heart of that city. Convened by the Social Development Education in cooperation with the Status of Women section of the Human Rights Division, the idea of the proposed Inter-Regional Expert

Groups' get-together is to have the benefit of a representative group of both men and women to give thought to the role of women in the overall socio-economic development and their participation in various other sectors like agriculture, industry and administration. The meeting is expected to draw up policy guidelines.

Shrimati Sharda Divan, the Vice-Chancellor of the SNT Women's University will be attending the meeting on behalf of India.

NEWSIES

New relic caskets found !

Two relic caskets containing charred bones have been found at the famous stupa at Piprahwa in District Basti, Uttar Pradesh. The caskets are of different sizes and made of soapstone skilfully turned on a lathe.

The significance of the finds lies in the fact that during the closing years of the last century a stone box, containing caskets of the same material and shape but of different sizes, was excavated from the stupa by digging a shaft through the central part of the core. One of these caskets bore an inscription in Asokan Brahmi which provided a firm date for the stupa.

The two caskets now discovered along with pottery were found in the same shaft but at a lower level. These lay within two separate small sized chambers of bricks. Whether those relics belong to an earlier stupa is yet to be established.

A brick-edged outline encircling stupa on the outside has also been exposed but its relationship with the main stupa requires further investigation. On the structural side, the excavation revealed that, at a later stage, some time in the early centuries of the Christian era, a square base showing niches on the sides, was added to the drum of the stupa.

The excavation was conducted by the Mid-Eastern circle of Archaeological Survey of India, under the direction of Shri K. M. Srivastava

Heard this one ?

Students at Carleton University have set up a non-profit corporation to provide regular part-time employment for 200 students and occasional work for another 15 students. Carleton University Enterprises has typists, tutors, trained gas station attendants and bartenders on call. It also operates two fruit stands on campus and rents films and books musical groups.

AGRICULTURE BY POST I

The Punjab Agricultural University has been running correspondence courses for matriculate farmers without charging a fee—not that they award any degrees. The main purpose sought to be accomplished through these courses is of transmitting scientific information to literate, working Punjab farmers. Subjects covered normally by such postal tuition includes Botany, Agronomy, Chemistry, Agricultural Machinery, Plant Pathology and Horticulture; and lessons are sent every fortnight. The test is conducted also by post, although the university does give them opportunities to come to the campus, where they meet the experts and get practical training.

And the only thing they have to pay is a fee of Rs. 5!

Telugu Chair at Mysore

The Vice-Chancellor of Mysore University mentioned that post-graduate diploma courses in Forensic Science and Criminology, Hindi, Political Science and courses in Journalism and Library Science would be introduced from this academic year.

A chair for the study of Telugu will also be created out of the grant of Rs. 3 lakhs sanctioned by Govt. of Andhra Pradesh.

CHANGES

- Jawaharlal Nehru Krishi Vikas Vidyalaya, Jabalpur — Shri S. C. Verma, Secretary to Govt. M. P. Agriculture Deptt.-cum-Production Commissioner assumed office of Vice-Chancellor with effect from the afternoon of May the 8th, in addition to his own duties.
- Gujarat University—The Vice-Chancellor has ratified that Shri J. M. Mehta will officiate as Registrar with effect from 8th May until 9th June vice Shri K. C. Parikh who has proceeded on leave.
- Patna University—V. C. Mahendra Pratap vacated office on 21st April in consequence of the promulgation of the Bihar State Universities Ordinance 1972. and Shri Kuryon Abraham, IAS, took over on 8th May. Mr. C. R. Venkatarao, IAS, has been appointed Officer on Special Duty at the University.
- University of Calicut—Prof. M. M. Ghani has been appointed Vice-Chancellor with effect from 1st June, 1972.
- Allahabad University — Dr. Bahu Ram Saksena, M.A., D. Litt (Paris) was appointed as, and assumed charge of the office of, Vice-Chancellor, on May 24.
- Gorakhpur University — Shri Gangeswar Prasad, Retd Judge, Allahabad High Court, has taken over charge as Vice-Chancellor w.e.f. 1st April.
- Bhopalpur University—Shri C. R. Vaidyanathan assumed charge as Vice-Chancellor w.e.f. 1st May.
- Univ. of Bihar — Shri N. Nagamani, assumed the office of Vice-Chancellor, on the 10th May, 1972.

READ UNIVERSITY NEWS

Textbooks Prescribed and Recommended

EDUCATION SECRETARY

GOVERNMENT OF INDIA

NEW DELHI

Dated the 29th November, 1971

FOREWORD

The Joint Indo-Soviet Textbook Board was set up in January, 1965. Since then a number of Soviet books used in their universities have been printed in English with the approval of the Government of India and made available for sale to Indian students. These books which are in the fields of Science, Technology, Medicine and Agriculture, have been a significant addition to educational material available in India.

In the Protocol signed in October this year, a review was made of the working of the Joint Board and new arrangements agreed upon. I have every hope that this programme of intellectual collaboration between the Governments of USSR and India will rapidly grow in its size and scope to encompass the best Soviet textbooks in all the important fields of Science and Technology.

T. P. Singh

SOVIET TEXTBOOKS PRESCRIBED FOR INDIAN STUDENTS

The majority of the books, listed below, are published by the Mir Publishers, Moscow.

The Mir publishers publish Soviet scientific and technical literature in English. Titles include textbooks for universities, technical schools and vocational schools; literature on the natural sciences and medicine, including textbooks for medical schools and schools for nurses, popular sciences and science fiction.

The authors of books published by the Mir publishers are leading Soviet scientists and engineers, specialising in all fields of science and technology, and include more than 40 members and Corresponding Members of the USSR Academy of Sciences. Skilled translators provide translation of a high standard from the original Russian.

Many of the titles already issued by the Mir publishers have been accepted as textbooks and manuals at educational establishments in India and other countries.

As many as 120 latest Soviet textbooks on science, technology, medicine, biology and other disciplines have been approved for Indian universities and schools. All these books are also recommended for translation into Indian languages. Seventy-two titles of Soviet textbooks have been recommended for

reference reading.

This programme is directed by the Joint Indo-Soviet Textbook Board composed of representatives of the governments of India and the USSR. The Education Secretary, Government of India, is the Chairman. The textbooks are Printed in the Soviet Union. Each book is evaluated by Indian scholars to determine its suitability for Indian educational institutions before it is approved by the Ministry of Education of the Government of India.

The retail prices of the title are reasonable and within the reach of the students.

Most of these and many other titles are readily available with the leading booksellers all over the country and positively with the importers of Soviet publications in India. The list of the main distributors appears at the end.

It is planned in future to Publish Soviet textbooks not only in English language, but also in Hindi (translated from original Russian or from English).

Some of the textbooks in Hindi will be published in Moscow but the majority of the titles in Hindi and some other Indian languages will be published in India under the auspices of the Ministry of Education and Social Welfare.

TEXTBOOKS PRESCRIBED

PHYSICS

Title	Author	Pages	Price
A-Z the Soviet Encyclopaedia of Space Flight	Petrovich	620	15-00
A Course of General Physics	R. Gevorkyan	540	8-60
Handbook of Elementary Physics	N. I. Koshkin		
	M. G. Shirkevich	214	4-25
Hydraulics	B. Nekrasov	275	7-20
Introduction to Physics	A. Kitaigorodsky	724	9-60
Nuclear U 238 Power	D. Voskoboinik	150	9-50
Philosophical Problems of Elementary Particle Physics		475	8-30
The Atoms from A to Z	K. Gladkov		
The Physics of Rocks	Y. Rzevsky & G. Novik	350	7-75
The Structure of Atoms and Molecules	V. Kondratyev	544	8-40
Theoretical Physics	L. Landau & Y. Lifshits		
Theoretical Physics	A. Kompaneyets	616	10-80
Theory of Elasticity	M. Filonenko Borodich	388	7-20

CHEMISTRY

A Handbook of Problems and Exercises on Chemistry	I. I. Goldfarb & U. K. Khadakov		
Fundamentals of Petroleum-Chemical Technology	Belove	429	5-50
General Chemistry	N. Glinka	710	7-20
Organic Chemistry	B. Pavlov & A. Terentyev	616	8-40
Qualitative Analysis	V. Alexeyev	563	8-40
Quantitative Analysis	A. Alexeyev	518	8-40
Study of Oil and Gas Series Well Logs	Itenberg		
Theoretical Principles of Organic Chemistry	O. Reutov	701	9-00

MATHEMATICS

The Nature of Mathematical Knowledge	Ruzavin		
Problems and Exercises in Mathematical Analysis	Baranenko	496	8-40
Problems in Mathematical Analysis	B. Demidovich	400	7-20

GEOLOGY

A Course of Mineralogy	A. Betekhtin	643	9-60
A Short Course of Geological Survey Work	G. C. Milaser & N. E. Eremin		
Economic Mineral Deposits	Dorokhin & others	368	7-20
Essentials of Crystallography	Y. Flint	226	5-40
General Geology	O. Lange, M. Kursanova & N. Lebedeva	300	5-40
Interaction of Sciences in the Study of Earth	V. Baranov	323	6-25
Physical Geology	Gorshkov	596	8-35

MECHANICS

Elements of Applied Theory of Elastic Vibrations	Y. Panovko	320	6-75
Fundamentals of Engineering Mechanics	L. Levinson	334	5-10
Lectures in Analytical Mechanics	P. Gantmacher	265	7-00

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DACCA UNIVERSITY TEAM VISITS PANJAB UNIVERSITY

CAMPUS

NEWS

A Dacca University team visited the Panjab University from May 9 to 11.

Mr Suraj Bhan, the Vice-Chancellor, gave an 'at home' to the team on the evening of May 9. Welcoming the team, he said that the University was glad to play host to them and took them as ambassadors of goodwill from a friendly Bangla Desh.

The Vice-Chancellor observed that sports activities in Bangla Desh suffered a severe set back during the liberation struggle. But he was happy to know that efforts were afoot to re-organise sports in Bangla Desh and that a national organisation 'Bangla Desh Kaira Niyantaran Sansthan' had

been recently set up to develop the standard of sports and organise tournaments at national and international levels.

The Vice-Chancellor announced that the Panjab University was ready to offer two or three seats to good sportsmen and scholars from the Universities of Bangla Desh every year to our Department of Physical Education, which provide instruction in Master and Doctoral degrees in Physical Education. The Vice-Chancellor added that the University could also offer some financial and other facilities to these scholars, if this offer was okayed by the Government of India.

The Vice-Chancellor observed that these would be happy to see

Universities of Bangla Desh associated with the Inter-University Sports Board of India and Ceylon, if and when such a proposal was formally made.

Mr. A.H.M. Mustafa, Manager of the team and Director, Physical Education at Dacca University, appreciated the offer of the Panjab University and presented a plaque showing a hut on a boat to the Vice-Chancellor as a token of friendship.

The Dacca team played two friendly matches with the Panjab University Hockey team and the Rock Rovers team of Chandigarh on May 10 and 11, respectively.

INDIAN SCHOOL OF MINES DHANBAD

Direct Admission Notice

A limited number of seats in the first year of the 5-year Integrated Course leading to the Degrees of Bachelor of Science in (1) Mining Engineering and (2) Petroleum Engineering and Degrees of Master of Science in (1) Applied Geology and (2) Applied Geophysics at the Indian School of Mines, Dhanbad, for the session 1972-73 are reserved for rankholders of the following examinations conducted by the recognised Universities/Boards 1972.

Pre University/Indian School Certificate, Higher Secondary with Chemistry, Mathematics and Physics and English.

Application are invited in the prescribed form for these reserved seats. Only candidates who have secured a position within the first thirty ranks in the Board/University at the examinations mentioned above shall be eligible to apply for admission under this category. Candidates who have appeared for Entrance Examination may also apply for seats under this reserved quota.

Candidates born on or after 1st October, 1951, are only eligible to apply for admission. The upper age limit may be relaxed by 3 years in the cases of candidates belonging to Scheduled Caste and Scheduled Tribes.

For detailed instructions please see the memorandum of information and application form which can be had from the Registrar, Indian School of Mines, Dhanbad with a money order for Rs. 3/-. Money Order receipt should be attached to the request for application form.

Applications in the prescribed form complete in all respects including marks-sheet should reach the Registrar, Indian School of Mines, Dhanbad by 7th July, 1972.

(A. Subramanian) Registrar



Mr. Abdul Siddiqi, Captain of the Dacca University Team gets a Hockey stick and Souvenir from the Vice-Chancellor Panjab University, Shri Suraj Bhan.

A Summer Institute in Chemistry was inaugurated for college teachers at the University by S. Bishan Singh Samundri, Vice-Chancellor.

In his remarks on the occasion, the Vice-Chancellor felt that while acquisition of latest knowledge by teachers was very essential, it was no less essential that they actively participate in community life: "The professional achievements, in the ultimate analysis, are more useful in the personal and the social sense than political patronage, after which sometimes all of us run about," thought the Vice-Chancellor.

Purpose of the Institute

While he felt that the purpose of

a Summer Institute in Chemistry was not at all clear in 1964, a picture—not entirely satisfactory—had emerged during the last eight years. The idea of the Summer Institute was both to refresh the knowledge of a teacher, who

GURU NANAK UNIVERSITY

A summer institute in chemistry

lacked, because of his location, library facilities to keep abreast of his field of specialisation, and to keep pace with the explosion of knowledge. He felt that the "existing" knowledge was not available in our country in "assimilable form"; and that books were being written by those

who seldom read either journals or monographs. The result was that everything depended on their capacity to "pick and choose" from foreign books, and that left us all far behind in the race". He was of opinion that the writers

who were professionally competent did not write books for fear that they would not sell without patronage. The Vice-Chancellor also emphasised the need for teachers to educate students on the right perspective of learning—

—cont'd on page 15

POST-GRADUATE CORRESPONDENCE COURSES AT RAJASTHAN

Reported by Prof J. N. Asopa i/c History and Prof K. L. Kamal i/c Political Science

With a host of students applying for post-graduate courses it became impossible for the University to cope with the admission problem. So it was decided to start post graduate Correspondence courses. To begin with, only two subjects were taken up i.e. History and Political Science. The decision was quite late and the courses were started as late as 25th September, 1971. Even then the response was quite encouraging in spite of the fact that they were given lessons only through the medium of Hindi. In the very first session 344 students took admission in History and 574 in Political Science. Thus the University had 918 students on rolls for the two subjects.

The students admitted belong practically to all the parts of the country. Even persons serving in defence services on the front have taken advantage of these courses. The student population could be doubled if lessons were given in English also. At present, most of the students hail from Rajasthan and the centrally administered area of Delhi.

In this system 15 to 20 lessons in every paper are despatched to students, who answer questions attached to their lessons. They are corrected by teachers of the University and sent back to the students for their guidance. Students are treated as regular and are awarded sessional marks up to the extent of 10% in every paper.

The University has also started a separate library for correspondence students at Jaipur. The University had organised two contact courses for students—one at Delhi and another at Jaipur. Two contact camps were scheduled in March quite near the

examination for the immediate benefit of the students at Delhi and Jaipur. And lessons are course-oriented. But even a general reader can benefit from them as they are more communicative than a book. The questions give a guide-line to students which they have to stress while reading the lessons and supplementing them from standard books. References for further studies are given in all the lessons. Thus whatever could be communicated through lectures has been given in a precise way. The response sheets answered by students serve the purpose of tutorials. The contact classes serve a double purpose. First of all they listen to the lectures and secondly any academic difficulties they have can be removed by the teachers concerned on the spot. There is one more purpose behind the contact camps i.e. that students come in contact with their teachers and can learn something more than the subject by their company. Thus correspondence courses are certainly better than private studies. They are a ray of hope for all those who cannot attend day to day classes in the University. All those who had to appear privately for one reason or another can now easily shift to correspondence courses at a nominal fee of Rs. 350/- per annum and continue reading at home while earning or doing their odd jobs. Thus we should thank the University of Rajasthan for this bold step which they have taken in the interest of a vast majority who cannot come to the portals of the University and thus the doors of Muse are never open to them. This will give a new perspective to education i. e. education is for the sake of education and its doors are wide open for all even if they cannot come to the four walls of the University. Now the University goes to them instead of the students coming to the University.

ELECTRICAL

Title	Author	Pages	Price
Basic Electrical Engineering	A. Kasatkin & N. Perekalin	388	10-70
Bridge and Potentiometer Methods of Electrical Measurement	K. Karandeyev	266	6-00
Electrical Engineering Materials	Karitsky	350	5-50
Electrical Equipment for Generating Stations and Substations	Baptidanov		
Electrical Measurements	Pupov	312	4-15
Electric Arc Welding	Shebeko		
Electric Drive	Chilikin	492	8-30
Electric Power Stations—Equipment of Turbines and Chemical Department—Fitters' Guide	Engel- Kron	328	4-15
Electric Slag Welding	B. Paton (Editor)	386	7-20
The Electric Welder (A Manual)	V. Tsegelsky	280	4-00
Industrial Power Supply	A. Fyodorov	438	7-25
Maintenance of Electrical Equipment	Gelberg & Pakelis		
Maintenance and Repairs of Industrial Electrical Equipment	Atabekov		
Power Station Boiler Room Equipment Fitters' Guide	A. Tseshkovsky	360	5-00
Power Stations and Substations	L. Baptidanov & V. Tarasov	462	7-20
Practice of Technical Thermodynamics	V. N. Zuharev & A. A. Abksandov		
Protective Relaying in Electric Power System	M. Titarenko & Noskov-Dukelsky	400	7-20
Radio Engineering and Electronics	Z. Pruslin and M. Smirnova		
Repair Shop Electrician	G. Vartanov, V. Verner, V. Serebryanov	267	3-60
Theoretical Fundamentals of Electrical Engineering	Bessonov		
Thermal Engineering	I. Shvets & Others	483	7-20
Thermodynamics	Sushkov	397	7-25
Ventilation, Airconditioning and Heating in Textile Mills	N. Sorokin	384	8-60

METALLURGY AND METALS

Engineering Manufacturing Process	D. Maslov & V. Danilevsky	432	7-20
Theory of Metallurgical Process	A. Volsky & E. Sergievskaya		
Forging Practice	Kamenschikov	485	7-20
Gas Welding and Cutting	D. Ghizmanenko & G. Yevseyev	430	7-20
General Metallurgy	N. Sevryukov & others	555	7-20
Heat Treatment—A Handbook	I. Kamenichny	276	3-60
Heat Treatment of Metals	Zakharov	311	7-20
The Melting of Cast Iron and Non-Ferrous Alloys	A. Lipnitsky	219	3-00
Metallurgist's Handbook	A Group of authors	371	6-00
Metal Process Engineering	P. Polukhin & others	431	7-20
Production of Ferro-alloys	A. Riss & V. Khodorovsky	289	6-00

Title	Author	Pages	Price
Sheet Metal Work	Medvedyuk	360	4-50
Stress and Strain in Metal Rolling	A. Tselikov	475	7-20
Open Health Practice	I. Bornatsky and others	340	7-20
Theory of Metallurgical Process	A. Volsky & E. Sergievskaya		
MACHINES AND MECHANISMS			
Boring Practice	Smirnov	322	4-20
Conveyors and Related Equipments	A. Spizakovsky & V. Dyachkov	444	7-20
Elements of Lathe Work	B. Brushdtein & Dementyev	443	6-60
Engineering Drawing	Bogolyubov	355	7-25
Fits, Tolerances and Engineering Measurements	Y. Tarasevich & others	160	5-00
Fundamentals of Manufacturing Engineering	S. Balakshin		
Fundamentals of Process Engineering	Kovan	486	7-20
Machine Tool Design (in 4 Vol)	Acherkan (Editor)		31-30
Materials Handling Equipment	N. Rudenko	446	7-20
Mechanical Drawing	A. Serebriakov & others	199	5-50
Metal Cutting Machine Tools	A. Gavryashin & others	383	8-60
Metal-cutting Tool Production	M. Palay	531	7-20
Rolling Practice	P. Polukhin & others	510	9-60
Theory of Machines Tractors	Dobrolubov, A. Gurevich & E. Sorokin	516	8-40
WOODCRAFT			
Installation and Maintenance of Wood Working Machinery	I. Sheinov	325	7-20
Wood Working Machinery and Cutting Tools	Afanasiev	625	8-60
MARINE			
Marine Power Plant	P. Akimov	380	8-40
Nautical Astronomy	B. Krasavtsev & B. Khlyustin	615	9-50
MINING			
Mine Surveying	D. Ogloblin	240	6-20
Mine Ventilation	A. Skochinsky & V. Komarov	579	8-40
Technology of Production and Repairs of Mining Instruments	Shilov		
CONSTRUCTION			
Erection of Prefabricated Reinforced Concrete Structures	Y. Besser & V. Proskurnin	280	4-20
Concrete and Concreting	Tretyakov	312	4-25
AGRICULTURE			
Farm Machinery (A Manual)	N. Bushuyev, G. Alexeyev & V. Plaksin	303	4-80
Fruit Biology	V. Kolesnikov (Editor)	338	6-30
Hydrogeology of Irrigated Lands	Dr. A. Siline—Bekchourine	109	3-00
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University News, June 1962

CORR. COURSES AT SVU, TOO !

The University Grants Commission accorded permission to the University to introduce Correspondence Courses in sanctioning a grant of Rupees five lakhs for a period of four years for the same scheme. A larger No. of students of the backward area of Rayalaseema, who are unable to join regular University Course due to economic reasons, will have better opportunities to improve their employment prospects in future.

The Andhra University has already been accorded sanction for introduction of the Correspondence Course. Sri Venkateswara University and the Andhra University will coordinate their Correspondence Courses Programme by holding joint meetings.

An ad hoc Committee meeting will be held on 31st of this month to draw the outlines of the scheme—regarding the subjects to be taught for the degree course, qualifications for the candidates to be admitted, staff, part-time teaching and full-time organisers as well as secretarial staff required to implement the scheme also. The Committee will go into the need for providing Audio-visual materials for giving insight to the student to go into the subjects.

The University is planning to organise Contact classes, vacation courses etc. in December and in May for the candidates who register for the course so that they will also gain insight into University Campus, its activities, its life and academic climate as well as utilisation of the Library facilities for the period in addition to having live contacts with their teachers. They will stay within the University Campus. It is contemplated that the admission to these courses will be restricted to those who reside in Sri Venkateswara University area for the present.

A Technological University for A.P.

Proposed to be set up on the Regional Engineering College Campus, an A. P. technological university has now emerged as a reality.

That such kind of an university is taking shape is mainly the result of a great deal of effort of both the State Technical Education Minister, Mr. Madan Mohan, and his special Officer, Dr. T. R. Doss, both of whom discussed the whole idea with the UGC Chairman, Dr. Kothari, and other concerned officials recently at New Delhi.

While the Sub-Committee, reported to have been appointed by the UGC, is expected to visit Hyderabad this month for follow-up discussions with the Minister and the Special Officer, it will also ascertain views of the principals of various Engineering Colleges

and all the Vice-Chancellors in Andhra Pradesh.

According to report prepared by the Special Officer of Andhra Pradesh and submitted to the Govt. and the UGC, the new university would include the present eight institutions.

The total recurring grant of Rs. 121.90 lakhs, now being disbursed by the State Govt. to the eight institutions mentioned above as ad hoc or block grants, might now be given, instead, to the Technological University. An additional 3 lakhs of rupees might also be provided to the technological university by way of grant for the financial year 1972-73 out of the Plan provisions.



The President, Mr. V. V. Giri, presenting the Padma Bhushan award to the Vice-Chancellor of P.A.U., Ludhiana, Dr. M. S. Randhawa, at an investiture ceremony held at Rashtrapati Bhawan.

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KARNATAK—A study in self-economics

A new project initiated recently by the UGC into university finances promises to be a big step forward in the right direction. The university selected out of the twelve for the first study is Karnatak.

Here, a research project to study the university finances has been taken up. Sponsored jointly by the UGC and the Indian Council of Social Science Research, it has come about because of the realization that the financial stability in various universities has been quite variable—each university, depending upon its status and its life, has a varying record of current and developmental grants given by the State Government to match the financial assistance given by the UGC.

Dr. D. M. Nanjundappa, Head of the Department of Economics, who is charged with studying the finances of Karnatak University considers any study of university finances incomplete

without a study of the finances of its affiliated colleges. The idea, felt Dr. Nanjudappa, was that the study should tackle an analysis of university revenue and expenditure, while it should also take a look at its reserve funds. This became necessary because of the need for reform in university finances at three levels—the UGC, the State Government and the University. The other areas that the study would include was to build up material for training university administrative personnel in managing its finances and to examine college finances to secure a sound financial basis.

It is expected that the first report on university finances will be ready by January 1973 and the study of college finances by June of that year.

When the reports from Agra, Allahabad, Bombay, Calcutta, Gujarat, Madurai, Kerala, Osmânia, Patna, Utkal and Rajasthan are in, an all-India Report would be prepared.

contd. from page 8

Summer Institute

their utility to society—and the right values of living: "The good teacher is one who can influence not only the career but also the thinking of his pupils."

Talking of the Examination System, he held forth the three points upon which he would like the institute to reflect: (i) course content for effective and purposeful teaching; (ii) tools of assessment of instruction imparted; and (iii) frequency of Examinations.

The idea of keeping the first—namely, course content—in view, was to specify the course of study and the quality which a student must attain; together with this, the behavioural objective also ought to be kept in mind—it should specify knowledge, ability,

attitude and skills which a student should ultimately develop upon learning the course content.

Regarding Tools of Assessment, he also mentioned Objective Tests: "Carefully designed objective tests can measure critical thinking. Scoring is easy, objective and accurate."

The Vice-Chancellor held, while examining the third factor—frequency of examinations—that for a good education, the frequency of tests is very essential: "This is also good for students; for instance, to assess them after two years is a question of luck and chance." Dr. S. S. Sandhu, Professor and Head of the Chemistry Department, thanked the Vice-Chancellor.

Allahabad University is back to normal!

The Executive Council's unmistakable determination—reflected in the proceedings of its emergency meeting on 21st April—that the university would be closed down *sine die* if students continued their interference in the holding of examinations, had a salutary effect.

The resolution adopted spoke of the fact that students had been forced to leave examinations by "some rowdy elements". It also said that although the Council was "disressed with this disruption in examinations," which had damaged the university's reputation, it had decided, "as a special case", that a re-examination would be held in case of M.Sc. Final (Mathematics) II paper, M. Com. Previous XIV paper, M. Sc. Final (Physics) III paper etc. from 24th April.

Students were further warned that if they walked out again, they would do so at their own risk, saying that "a walk-out would not automatically mean re-examination". Students were advised first to take the paper and then make a representation in case of any grievances.

The Council resolution went so far as to say that in case examinations were disturbed even then, the university would have no option but to postpone the examinations—and even to close down the university—indefinitely.

A report from the Registrar, who had been asked to comment on these developments, happily notes: "Since then our examinations have been normal and there was no attempt to disturb them". The re-examinations have also been held except in the case of M. Sc. Final (Mathematics) II paper, "the date for which is yet to be decided."

Since my letter on this subject appeared in the *Hindustan Times* dated the 9th March and its publication in the *Indian Express* and *Patriot* and in the *University News* of April 1972, there have been many reactions in the academic world and some have desired that I should spell out the implications of the proposal.

Welcome Scheme

Progressive friends have held it as an extremely desirable thing to happen whereas others are a little chary or cautious. A Vice-Chancellor from one of the U. P. universities wrote, saying: "I agree with you fully that higher education in India should be a Central subject". He further said ".....difference in expenditure between the affiliating State universities and the Central universities is almost unbelievable. The State expenditure per student in this university was between Rs. 100 to Rs. 150 per annum while in Delhi University it was about Rs. 600 per annum or even Rs. 700/- and in Banaras Hindu University it may be Rs. 2000/- per annum. If we believe in socialism we should give equal opportunities for higher education in all parts of India and this can only be done when higher education becomes a Central subject. I also believe that if our Prime Minister agrees to support the idea then this is the

is a State subject under entry 11 of List 11 of the Seventh Schedule entry 66 as well as 65 gives the Union Government power to secure that standard of research etc. which is not low at the hands of any particular State, detrimental to national progress and the power of State Legislature must be so exercised as not to encroach directly upon the Union power under entry 66. However, the grim state of affairs in our universities today means reviewing the whole question and the inescapable conclusion is that the Parliament and a Central Ministry of Higher Education should take the responsibility directly with the merger of the U.G.C. in the Ministry.

Difficulties of the U.G.C

Many persons have misunderstood higher education to mean the whole of education. It is never meant that 'education' should be a central subject but only higher education because it is the biggest defence of the country as a whole. The U.G.C. can advise, it can give development grants for different purposes but maintenance after five years is left to the State Governments and they can raise the question that they have not got enough money for the purpose of maintaining large scale developments recommended by the U.G.C. They need a lot of money for expensive development and maintenance of primary and

Vice-Chancellor K. L. Joshi of Indo

A Central Ministry

opportune moment that all the States can be persuaded to work according to this idea. Such an opportunity may not occur easily again." Another Vice-Chancellor who is very much disturbed with events in the universities says, "Your proposal that higher education should be centralised under a separate Ministry is a very good one, but I suspect we have created too many vested interests for any real centralisation to be possible. The example of the U.S.S.R. does not help, because there authority is real and in our country it is seldom possible to discover where real authority lies." Further another Vice-Chancellor says, "Your suggestion for adopting the pattern prevalent in U.S.S.R. is most feasible and useful. I hope the Government of India will pay attention to your wise suggestions and treat the subject of higher education on a different footing."

Constitutional Position

Some have often argued that the University Grants Commission which was created in 1955 to take care of entry 66 of the Seventh Schedule List I, could take care of all higher education with its function of coordination of standards. Entry 66 mentions the power of the Central Government in relation to "coordination and determination of standards in institutions for higher education or research and scientific and technical institutions". While Education

secondary education and hardly enough money is left for higher education. The state of universities in Bihar where administrators have been appointed in all universities in place of Vice-Chancellors, the condition of State universities in the U.P. and M.P. and the struggle for adequate maintenance grants in several other universities of financially advanced states will give an idea of lack of coordination which the U.G.C. with its present set up cannot really control. Centres of advanced study have been established by the U.G.C. in universities, none of which belongs to State universities of U.P., Bihar and M.P. except one in Geology at Saugar in Madhya Pradesh. This is because encouragement of pursuit of excellence and provision of suitable conditions and facilities of advanced study and research are not available in those universities. This means that they are backward but universities have to be encouraged from the point of view of coordination of standards, backward universities cannot be allowed to have their teachers and students more backward. The difficulty is that if the U.G.C. were to give large development grants State Governments very often resist committing themselves to maintain the development emerging from them in spite of the large amounts given by Finance Commissions which are more often used for maintenance of primary and secondary education. The U.G.C. is not at fault if the State Governments even after long arguments show their inability to

maintain universities at a higher level. But the country suffers on account of the sub-standard manpower produced by sub-standard universities. This affects national goals and speedy development with a large number of uneducated literate persons who figure in legislatures, commerce, trade government administration, teaching and various other sectors of economic growth. The problem is even greater today of the poorly educated employed persons than the educated unemployed. This leads to corrupt practices, dishonest methods, nepotism and use of unfair means in examination halls as well as in politics.

National Defence

I think the biggest defence of a country is its educated manpower. It is required in all economic sectors, in railways, communications, industries, agriculture, social services including health services. Secondly, the language of the scholars from different States is almost identical in regard to research and application of research. If, therefore, defence, communication, industries, etc. are central subjects, higher education has also to be a central subject.

Today the character and destiny of the nation has become a subject of public and private discussion

where casteism, regionalism and religionism should not find place because the objectives and the goals of higher education are incoherent with them.

In the field of defence, communications, (railways, posts and telegraphs) and in subjects listed in the Union List of the Seventh Schedule of our Constitution there are no considerations of the regional kind. The highest form of communication and defence of a country is higher education and therefore it will bring in emotional integration of the people at the academic or scholarly level if this subject is made a Union subject.

Central Administration

When higher education is made a central subject what is visualised is really financial and administrative control and not the denial of the autonomy of the university. It will be the kind of control that is there in the central universities, the Indian Institutes of Technology and the All India Medical Institutes and other central Institutes, e.g. of the C.S.I.R. It will be no doubt a big administrative machinery but it will be certainly less burdensome than the Central administration of railways and posts and telegraphs. By making higher education a central subject it is not intended that involvement of local bodies, local Gov-

University spells out his proposals for For Higher Education

as never before. During the last 25 years universities have changed remarkably in form and function with nearly a 100 universities, 3000 colleges and 30 lakhs of students. Some of the older and central universities spend huge sums of money but appear desperately poor. Students attack them, neighbours hate them, faculties dislike them and the public are critical of them in regard to rising costs like fees and restricted enrolment. Journalists hardly have sympathy for universities and colleges and give little attention to their problems unless it is a spicy story of a corrupt practice or violence in the campus.

National Integration

It is a peculiar feature of any nation that in a crisis of external threats or invasion there is complete unity and integration of the various peoples of different castes, creeds and political alignments. This has been tested in India in 1962, 1956 and 1971. This approach has to be sustained for the economic progress and social integration of the nation. Higher education is the important sector for a coordinated effort for the purpose as it trains and sends out to different economic, social, political, national and Government levels trained manpower which has to have a certain national standard. The feeling that one is Indian first before any other consideration can only be inculcated at the higher education level

ernments as well as State Governments is denied. There could be local advisory committees for each university involving the State Governments as well local authorities. Moreover, there could be various other administrative devices by which the State Governments could be involved.

This administrative set up will mean that while all school education upto matriculation standard will be in the State List, all higher education beyond that stage will be in the Union List by a necessary amendment of the Constitution. Both the maintenance and development grants will be paid by the Central Ministry of Higher education. It is argued by some that if it is not possible to take up the undergraduate and education by the Central Government at least the postgraduate and research education should be taken over. But that will again create fragmentation of higher education as a large number of teachers who teach at the postgraduate level also teach the undergraduates. The demarcation line between school education and higher education is very clear.

Secondly, when all universities are brought under the Centre, university administration could be centralised and it is possible to have a proper university administrative service like in the railways and posts and telegraphs on an all-India basis in all universities. It will also be possible to make certain tenure posts

available for I.A.S. cadre. Details of such an all India service for university administration could be worked out in consultation with the universities.

But the most important point is that today the Ministry of Education has no function as such as it could always take shelter under the Constitutional provision that Education is a State subject. And when it is a question of coordination of standards under entry 66 of the Seventh Schedule of the Constitution—Union List, the Union Ministry of Education could very well say it is a matter which the U.G.C. is examining or U.G.C. will be requested to consider. The U.G.C. on the other hand claiming to be purely an academic body cannot deal with the States either at the administrative or political level, when particularly the political party pull at the State level is strong and Finance and Education Secretariat of the State like to ignore the advice and recommendations of the U.G.C., as the U.G.C. does not, not that it cannot, retaliate such action of the State Governments with some reprisals because it would damage the interests of students and teachers

Political decision necessary for academic progress

But under the statutory responsibility of coordination of standards, during the last 15 years while the U.G.C. has brought out studies and made recommendations regarding reform of curriculum, raising of standards, enhancement of salaries of teachers, suggestions for examination reform, improvement of science education through Summer Institutes and special development grants, there has been no significant uniformity of action on the recommendations by universities in cooperation with the State Government. In fact, universities today enjoy the confidence of none. The students hate them and agitate on the flimsiest of grounds—they do not like any decisions for in that case their agitational activities would end; teachers do not care for them except for examiner-ship and membership of various committees; State Governments feel they spend too much and have no money for the whims of universities; the Central Government hardly worries for it uses the U.G.C. as a whipping post; and the U.G.C. suspects that the universities are not paying much attention to the valuable recommendations it made and do not cooperate with the State Governments or the U.G.C. to achieve desirable academic goals.

So it is all an atmosphere of mutual suspicion. But the academics and universities in India are not critical enough of the annual reports of the U.G.C. or the activities of the Central and State Governments for they are often indifferent or do not like to disturb the power of patronage of the U.G.C. and relations in the State Governments. Besides they do not know enough of administrative confusions in the sense of analysis of factual information in the country and tend to accept things as they are. In an atmosphere of mutual suspicion and ignorance things are allowed to drift.

Fragmentation of Higher Education

Besides Higher education has been fragmented. The U.G.C. does not deal with technical education except giving grants only to the University Departments and University colleges of engineering and technology and that too according to a pattern of all India Council of Technical Education which is not a Statutory body but was all powerful for expansion of technical education over the last 20 years till it got into difficulties of too many unemployed engineers. Medical Colleges are administered by the State Governments and the Central Ministry of Health but there is no organization like the U.G.C. for the purpose of grants which are paid on ad-hoc basis for development and hardly any coordination exists except for establishment of academic standards though the Statutory body of All India Medical Council, which has all the legal backing but no financial powers and every recommendation has to be adopted by the universities and State Governments through their sweet will. Agricultural universities have been established by the Ministry of Agriculture and the State Governments with the Agricultural colleges being described as constituent colleges of an affiliating university on the basis of now an out of date 19th century concept of land-grant colleges of the U.S.A. They are reported to be doing well but soon enough every agriculture university would introduce courses in engineering, home science, basic sciences and humanities. They will soon develop into general universities with specialization in agriculture. That is in the nature of any university development for no single-discipline university or institute could have modern growth without inter-disciplinary approach. All these fragmented sectors of higher education should be under one Central Ministry of Higher Education.

Financial Difficulties of U.G.C

And the U.G.C. itself is in difficulties of finance and coordinating functions. More than one-third of its budget of nearly Rs 30 crores a year has to be used for maintaining and developing only five central universities and so the balance has to be thinly distributed to the remaining 70 or 80 State universities as development grants which universities accept for capital investment but are chary when teaching posts are to be created: for State Governments are not always of the same view as the U.G.C. for maintaining the posts after the plan period. But the problem does not exist for Central universities. And nobody would question why a crore of rupees should be spent by the U.G.C. on 1000 acres of land for Jawaharlal Nehru University when hardly 200 acres are required for a modern university and perhaps much less when it is only a research institution where there could be more teachers than students. Illustrations of disparities and lack of coordination could be listed but this can be explained in terms of different attitudes of State Governments to their universities and of the U.G.C. to the Central universities.

The U.G.C. has hardly prescribed any norms for expenditure of all types by State universities except

for certain standard development schemes. A state university in the Punjab can spend Rs. 75 lakhs for an administrative block rather luxuriously furnished, equipped and air-conditioned, while a state university in M. P. finds it difficult to secure even five to six lakhs for a purpose. The State Government could provide Rs. 30 to Rs. 40 lakhs of capital expenditure for, say, Physics or Chemistry blocks when another would spend only Rs. 1 or 3 lakhs as matching share with the U.G.C. grant. This is hardly coordination of standards; but as the subject is a State subject and the U.G.C. gives only development grants to State universities on certain norms the rich States could give additional grants and poor States cannot give even matching grants and yet the end results are more or less the same. For indeed Lucknow and Allahabad with their enormous financial difficulties and deficits produce more I.A.S. and I.F.S. personnel per year than Banaras and Aligarh with their big budgets.

A university which is self-conscious does not belong to a region. It belongs to civilization rather than to one region, one State or one country and it is a part of the world of learning having uniform goals, language of communication and use of technical devices.

The U.S.S.R Pattern

This problem has been solved by the U.S.S.R. by making the subject of higher education a central subject with one medium of instruction all over, though the republics have local language as media of instruction at the elementary and secondary education levels. They draw guidelines of development for long term planning and secure both academic and political backing for their programmes. Training of highly qualified specialists is centralized and leadership is not diluted through self-styled heroes and specialists of the States but emanates from the Centre with much intellectual discussion and debates and experimentation and evaluation. The argument that the political and economic set up is different in the U.S.S.R. from that in India is irrelevant in relation to an administrative set up and when we have accepted so much aid and advice for industrial, scientific, technological and social growth from the U.S.S.R., this important section of development could be patterned on their experience and adopted to our social and economic conditions.

Responsibility of Parliament

The basis of the pyramid of education is secondary and primary education. It is true that out of a 100 students of the age group 5 to 10 or 6 to 11 only 80 attend primary schools, 40 attend the middle school and 12 to 15 the secondary school. Only 3 out of them go to college or university. These figures will themselves indicate that at the higher education level we are not educating enough people but we are educating them badly for thinking is dispersed through different problems of States and coordination of standards or adoption of a coherent policy needs the direct responsibility of the Parliament with a Central Ministry of Higher Education.

LETTER

Joshi's Proposals—some criticism

Sir,

I have just read here Mr. K. L. Joshi's proposal ("Topic", University News, April 1972) that the University Grants Commission should be wound up and merged with the proposed Union Ministry of Higher Education to supervise University Education. Coming from a former Secretary of the UGC and a Vice-Chancellor of a University, this proposal is surprising indeed.

It seems to me that Mr. Joshi has mixed up two quite different issues: one, the question of making Education a Central subject, and two, making the UGC more effective. Whether or not Education should be made a Central subject is a matter of opinion and controversy on which there is a sharp division of opinion, both among academics and politicians. This need not concern us here, because it has nothing to do with the other question of making the UGC more effective. As far as the latter question is concerned, if, as Mr. Joshi thinks, the UGC is at present too small in relation to the large number of Universities to be effective, surely, it could be made more effective by making it larger (though I do not quite see the correlation between the two) by a more generous allocation of funds for Higher Education by the Union Government. As long as this does not happen, the UGC is bound to remain, as at present, a modest body, discharging limited functions and exercising less authority than one could wish over University education in India. The way to make the UGC more effective is to strengthen it, financially and otherwise, not merge it with a Ministry of the Union Government.

But the more serious implications of Mr. Joshi's suggestion are, that an institutional mechanism created by Parliament as a buffer between the party government at the Centre and universities, in the interests of safeguarding University autonomy and academic independence has not served its purpose, or that it is an unnecessary luxury in a poor country such as India, or that University autonomy, in relation to a government in a parliamentary democracy such as ours, has the same peripheral importance as in the Soviet Union which has an altogether different political and constitutional set-up. Mr. Joshi also seems to think that the only way the UGC can be made more effective is to make it bigger and since this, in his opinion, is neither possible, nor desirable, it had better be abolished. Alternatively, Mr. Joshi seems to think that a large governmental bureaucracy would be more effective in supervising University education than a modest, non-governmental body consisting largely of educational technicians.

I wonder whether Mr. Joshi has thought of these many and grave implications of his proposal. In case he has not, he should be invited to comment on them.

Canberra.

24 May 1972.

Prof. M. S. RAJAN

What was the real agenda at the Vigyan Bhavan Conference of State Education Secretaries on the 4th of May? Was it the Centre-State relations? Or was it Primary Education?

Neither! The real agenda related to this typical Indian boy who symbolises India's monolithic illiteracy—the basic multiple representing some 12409638 children still being prevented from going to school. The obstacles do not necessarily come from India's centuries old traditional poverty; problems also come from progressive elements such as modern development planning in India.

The first factor is too familiar to need any attempt at identification. The actual trouble comes, ironically, from the second element, which was actually designed to remove rather than create it!

The fault of modern progressive planning is that it is so enlightened that it has taken all possible steps to publicise the necessity of universal education and raised people's hopes without having made any preparations whatsoever to justify their fulfilment. The result is utter frustration and a sense of over-powering pessimism.

So when Professor S. Nural Hassan, the Education Minister, got up to speak to State Education Secretaries and Directors of Education assembled in the imposing Vigyan Bhavan, he said that he was going to place "some loud thinking on primary education" before them.

And he was right. Primary Education does not need merely loud thinking; it needs *louder* thinking! In the twenty-second year of our Republic, we are still talking of free and universal primary education as a distant ideal. As of now, we are already 12 years behind schedule in bringing every child of the 6-11 age group to school; and we have spectacularly failed in keeping those whom we did bring there. The constitution spoke initially of ten years after its commencement for accomplishing this task. That will sound like 1960. But even in 1972, we are saying that it must be staggered to 1974-75. When 1975 comes, we could perhaps say that we should be able to do it by 1995!

Primary Education has a direct bearing on all later education. If its foundation is not strong, it cannot endure the super-structure of secondary and higher education. The foundation refers to a qualitative primary education. It has been generally conceded that it needs a face-lift. And it needs it soon.

We have the great honour of having half of the world's total illiterates! According to the census figures, we have about 300 million of them. At the rate we are going, we should need 300 years to make

them literate! This, of course, does not take into consideration the ever-increasing population and the corresponding increase in this figure because of the present infrastructure of education. This infrastructure is responsible for increasing *not* decreasing illiteracy.

The overall picture is somewhat like this. Of every 100 children aged 6, only 80 enter school; by the time they are 11, half have left. And by the age of 14, only 25 are found in schools. Along about 17, the balance is 10 and by 21, it is only 2! Between the age of 6 and 21, therefore, 98 out of a 100 students have dropped off!

It needs no Galbraith or a Ross to pronounce that the total scene is dismal. We are still far inside the woods; the way out leads through primary education.

Our first problem is to make every child go to school; the second is to keep him there. He is like that proverbial horse in the Persian fable, whom you can take to the pond but cannot make him drink.



STRUGGLING AGAINST THE INVINCIBLE FORTRESS OF EDUCATION

By W. D. MIRANSHAH

How to keep him there, rather than how to get him there, is a question of all questions. Unless it is accomplished, we can do precious little about either primary or higher education.

The present procedure throws a great financial burden on the country's resources already accounted for without relevance to results. On the basis of the Census figures again, we spent 864 crores of rupees on education during the year 1970-1971. Roughly, half of it was spent on primary education. That will make it look like some 432 crores of rupees. The number of children who went to school was about six crores. In other words, we spent about 72 rupees a child a year—or, in still other words, we spent 6 rupees per child per month. Within this small amount, we have had to give teachers their salary, provide school buildings, give books; uniforms and so forth!

The other side of the coin is no less puzzling. We spent 4.2 per cent on technical education, whereas we lavished 14.6 per cent on "other items"! As if the irony were incomplete, only 5.1 per cent went to Arts and Science colleges!

What could be possibly our new direction? The major defect as Professor Hasan saw it was: "The curriculum fails to train the minds of students and to develop the personality of the child and also alienates a child both from manual labour and his natural moorings." One cannot help agreeing with him that such a system cannot be a basis for mass education. And if it is continued, it might really turn out to be a national disaster.

Is the community school the real answer? It looks like the only one at the moment. Of the many virtues of a community school, the most outstanding is multiple entries at several points and the provision of part-time education and private study. These will cover the entire community both in vocational and general education. Its greatest plus point is the getting together of local teaching resources instead of going in for outsiders. The main emphasis, in the case of a community school, seems to relate to utilization, as far as possible, of all local talent on a full-time basis and to qualitative improvement in teachers. Above all, its educational programmes will be intimately linked to economic growth of the community on the one hand, and national development, on the other.

As compared with the existing primary school, the community school will have three distinctive features: (i) expansion of student body; (ii) expansion of staff; and (iii) radical transformation of content.

The Education Minister's idea that model community schools be devised before launching full steam ahead at the national level would seem to be quite in consonance with pragmatic planning concepts.

Conferences of this kind have been held in the past too and a variety of resolutions solemnly passed. What has not been done however is the implementation of those resolutions. It is as true of primary education as it is true of higher education. What needs to be done has to be done, not might or should be done, if we are really serious about this business of making India a literate country.



WHAT DID A FOREIGN EDUCATIONIST THINK OF OUR EXAMS ?

● At the invitation of the United States Educational Foundation in India, Dr. Walker H. Hill of Michigan State University came out to India as a consultant on 'examinations' last year. He spent something like six months at the University of Calicut. In addition, he visited a few other universities as well. His last public engagement was in connection with a seminar on examinations conducted by Bhopal University. A few days before he left he visited the office of the Inter-University Board. The following is an edited version of his discussions with Dr. Amrik Singh—Editor

- Dr. Amrik Singh** After having spent a whole year in India and worked at half a dozen universities, you are about to go back to your country. It seems that it would be helpful for us to have your reactions to what you have seen and observed in the course of this year.
- Dr. Walker H. Hill** I spent about six months at the University of Calicut and the rest at five other universities. I looked into some aspects of university examinations and also the role of college teachers and the system of internal assessment.
- Dr. A. Singh** Is the introduction of internal assessment one of your principal recommendations ?
- Dr. Hill** No. On the contrary it is the importance of the question paper for the public examination administered through a different examination. I believe however this needs to be supplemented by continuous assessment of students' learning by their teachers.
- Dr. A. Singh** That means you would like the internal assessment to stay. But at the same time you would like a certain percentage of marks to be reserved for internal assessment.
- Dr. Hill** I think we are assuming that external marks and internal marks in examinations will be combined. I believe this is not a necessary assumption. Marks may be combined if the university so desires. These might also be reported separately and in fact my own preference will be to group them separately.
- Dr. A. Singh** You are probably the only American I have met who is in favour of the system of public examinations. Not only that, you also do not seem to be necessarily in favour of combining assessment marks with those obtained at the public examination. If I may say so, this is an even more conservative position than that adopted by the Education Commission. The Commission, as you might recall, said that marks obtained in the public examination and through internal assessment might both be shown separately in the final report given by the university.
- Dr. Hill** To my mind the essential point is that there should be continuous assessment made by teachers throughout the year. The main weakness of the instruction at the university level today in India is the absence of continuous assessment. The teacher also needs some knowledge about this assessment. Without this knowledge I believe the teaching cannot be effective. Whether these internal marks are combined with examinations or not is not all that important. My accent is on continuous assessment of a student by the teacher throughout the year.

Vocational Courses at Delhi University... Dr

"Is Higher Education too professional? Is it too general?"

"Both," said Dr. P. L. Malhotra, whom we met recently at his office above the Library of the University.

The errand, which took us there in a rickety jekopy, our our being out on another similar errand at Meerut, was a provocative little headline in the Statesman which said: "Vocational Courses in Delhi University."

"Besides," he continued, while giving a sharp rap for organising some tea for the three of us, "in

our present system, there is very little room for experimentation or innovation."

"When did you realise it, Doctor?"

"It occurred to me when I was the Principal of Shradanand College and I realised that the rural youth should be given such training as would really prevent them from fleeing their own countryside. The idea of vocational subjects as part of under-graduate studies is to prepare students for middle-level occupation, thus making them more employable, unlike the

present general education—based B.A. courses. The employment bias is interwoven in motivation of such courses. Ultimately, it means that this step will not only diversify and re-structure the first science/arts pass degree but will also be related to the trained manpower needs of the society."

The courses intended for introduction are tourism, office management and secretarial assistance, personal secretary, programming, store keeping and store accounting, insurance, retailing and trade, book publishing, foreign trade,

AN INTERVIEW WITH DR. WALKER H. HILL OF MICHIGAN UNIVERSITY

- Dr. A. Singh** There can be no disagreement with the point of view put forward by you and I fully concur with it. The only practical question which arises is how do we ensure that such continuous assessment takes place. Combining of marks obtained through internal assessment with those in the examination is one way of doing so. But perhaps there can be other ways also.
- Dr. Hill** I found in the university two types of programmes of internal assessment. First, every teacher can be required to carry out periodical assessment of every student. Secondly such texts might be prepared as cannot be used without assessing the students continuously. Also it should be required that internal marks for all students are reported regularly to the university.
- Dr. A. Singh** I am deeply gratified to hear your comments. My criticism of most American educators who come to India is precisely this. Most of them seem to think that all that works in their country ought to work here as well. But our social and economic situation is different. The public examination has to stay. To give it up and adopt a totally alien system is not likely to succeed.
- Dr. Hill** I would say it would surely not succeed. I have been stressing this point in my work with college teachers. This is an Indian problem for which we must find an Indian solution.
- Dr. A. Singh** It is heartening to hear those words from an outsider. As you said earlier the one point where improvement can be really decisive is in respect of redesigning question papers. I take it that in your work with college teachers this matter was greatly emphasised.
- Dr. Hill** The improvement of the question papers was my primary work with them. We believed that the key to improving the examination system is in re-designing the question paper in such a way that if we concentrated on this single topic the results would be enormously gratifying. I also made considerable use of the seminar report which was held in January, 1971 by your Board and let me say that I found the report of that seminar to be an extremely valuable one. I have also made a great deal of use of the papers included in that report.
- Dr. A. Singh** Thanks very much for your kind remarks about the report. You will be glad to hear that we have sold approximately 3,500 copies of this report so far.

L. Malhotra spells out the new strategy !

child care services, etc.

When asked whether prior to the introduction of such a scheme of things, he had carried out some surveys particularly with reference to employment needs, Dr. Malhotra said that these were instituted at the Institute of Applied Manpower Research, Labour Ministry, the Ministry of Education and a number of trading agencies and associations. He conceded, however, that he was able only to get qualitative, and not quantitative, estimates of vocational requirements to be served by these courses.

The Committee of Courses has representatives like the President of the Federation of Publishers, and the Managing Directors of Vikas Publications and Hind Pocket Books. There are others also, among whom are Mr. Abul Hasan and Professor J.P.S. Oberoi, in addition, of course, to Dr. Malhotra and Mr. A.N. Kaul.

The staffing pattern includes a Director and two Deputy Directors and has been approved both by the Academic and the Executive Councils. The UGC has also accepted the creation of the In-

stitute.

One could not help agreeing with Dr. Malhotra that although every commission appointed by the Government or the Universities to go into question of reform, had made recommendations, nobody had come forward yet to implement any of them. From this angle, Dr. Malhotra's work is truly pioneering and obviously the first shot fired in the battle of doing away with burdensome redundancies which have grown round education in India.

—Editor

LIBRARY SURVEY—Saurashtra University

By R. K. Gupta

Introduction

The Saurashtra University was relatively recently established in 1967. The university office, Examinations Branch, Postgraduate Centre and Library are housed in rented buildings. These are at this stage somewhat scattered in the city of Rajkot. But we plan to shift to the campus in near future (hopefully) where various buildings are getting ready.

The library committee under the chairmanship of the Vice-Chancellor decides about policy matters. Two other sub-committees look after purchases, planning, etc.

Membership

The university library serves the student community, faculty, and staff, not only of the university but also of affiliated colleges. Last year nearly 800 members borrowed over 6,500 books from the library. It speaks, among other things, of poor use of the library's collection. One is struck by the fact that most of the students come to the premises to read their own or library's text-books (mostly in regional languages) and not to consult the library's treasures (medium of instruction problem?)

Accommodation for Readers

The library's seating capacity is hardly 55. When colleges are in session, one can easily see, readers overflowing the available space. We, therefore, extend library hours to nearly 16 on working days and 9 on Sundays and holidays.

Expenditure on Books and Periodicals

In 1970 the UGC granted for the fourth five year plan period Rs. Three lakhs for purchase of books and learned periodicals. The expenditure was spread over a period of 2-3 years. Apart from this, Rs. one lakh for purchase of books and seventy thousand for subscribing journals are allocated in the university budget of 1972-73. The result is that we have over 40,000 books and are subscribing nearly to 700 journals in less than five years. The university library has also built up a collection of over 2,000 mss. We are from time to time receiving theses submitted to the Saurashtra University.

Teacher's Personal Library Scheme

The university provides incentive to teachers under its jurisdiction to build up their personal collections. It grants a maximum of Rs. 100/- to teachers by rotation. The grantees are also required to make a matching contribution. The procurement and delivery of books is effected through the library. Over one hundred teachers take advantage of this scheme every year.

University Information Bureau

Our university library is also a clearing house of information on higher studies in India and abroad. We have a sizable collection of catalogues of universities, research institutions and other organisations. Every year an increasing number of students are taking advantage of this facility.

Rhavnagar Branch Campus Library

It specializes in chemistry, mathematics and education to meet the curricular needs of postgraduate study and teaching in that city. It is manned by an assistant librarian, a technical assistant, and other staff.

Staff

A Librarian, an assistant librarian, three technical assistants and other office staff work at Rajkot. We are also looking forward to opening in June 1974 a B. Lib. Sc. course in the Saurashtra University.

Book Review (contd.)

By far the most interesting theme which has created crisis everywhere, including the university, ever since Eve tasted the forbidden fruit in the garden of Eden, happens to be Dr. Santokh Singh Anant's—"The Segregation of Sexes in Indian Universities."

First to come out in this series, the book apparently intended to take a long, critical look at the university in India and give a good dusting to some burning issues—an aim which has been deftly missed!

—W.D.M.

quote..... unquote

By W. D. Miranshah

Mr. S. K. Saini in Educational Reporter (January 1971): "A teacher should advise his students not to believe in rumours..."

Particularly when they hear that he is inefficient !

The Patriot in its leader, "Education in 2000 A.D": "The educational system will use the technologies of the computer, the programmed texts and micro-teaching as an important adjunct to the teacher."

Instead, it is more likely that the teacher will be an important adjunct to the computer, programmed texts and micro-teaching !

Mr. S. P. Duggal in Education Review (June 1971): "For international understanding, education must be suitably oriented so as to help in the achievement of the unity of man everywhere..."

Except in the University !

Mr. C. S. Bhatt in Progress of Education (Poona) (April 1971): "One of the major problems the country is facing today is of national integration."

That should be no problem if we can solve the disintegration part of it !

Porfirio Camarena in the Indian Journal of Adult Education (March 1971): "The fundamental reason behind the present youth unrest is the inability of the educational system to equip youth for future needs."

Still more fundamental is its inability to equip them for the present needs !

Mr. U. B. Patnaik in Progress of Education (Poona) April, 1971: "A very effective momentum for professional growth will come if the teacher analyses his work from time to time and welcomes criticism and suggestions."

The momentum would be still greater if someone listened to his criticism and suggestions.

Mr. I. M. Majagi in the Journal of the College of Education (May, 1971): "The average number of hours spent per week for actual class-room teaching by a teacher amounts to 19.8 or 20."

And he spends rest of the time thinking what to teach !

Book Reviews

"Crisis in Indian Universities"; Dr. Mansukhani; Oxford & IBH; Rs. 25

A collection of fifteen essays—six being by Dr. Mansukhani himself, five by Dr. Sushila Mehta and the rest three by Dr. S. C. Goyal, Dr. S. Singh Anand and Mr. M.P. Balakrishnan—the book has tried to focus attention on the chronic ills of the university and to find penaceas.

About the teacher's demand for a higher salary, he has a great self-righteous but: "Let them meet the intellectual challenge of our time." I am afraid, Dr. Mansukhani forgets that the challenge to which he and the teacher are as much subject as a Jute, is the technological revolution, the implications of which have yet to be understood even in countries as advanced as America.

While he is all for immediate scrapping of the system, he finds it alien to India and suggests that "it should return to Indianness", without defining the contours of this oasis.

Perhaps for the first time if anyone has suggested that post-graduate students should actively participate in politics as they do in America, it is Dr. Mansukhani. Although the raising of the voice for "the re-construction of the system" will make a welcome noise in Parliament, our learned friend forgets that an average Indian post-graduate student is as intellectual as a badly cooked omelette !

On examination reform (the second essay), Dr. Mansukhani suggests two pre-conditions for introducing internal assessment: making admission selective and the teacher-student ratio satisfactory.

In her essay, "Role of University in Adult Education," Dr. Sushila Mehta wonders why even in 1971, "as many as 7 out of every hundred adults do not know how to read or write." (One hopes "write" means the ability to join letters of a name.)

One wonders how Dr. Mehta reconciles the need for "integration and re-interpretation of the Indian culture," (page 87) which she declares, somewhere earlier in the essay, to be "deadwood".

She takes a long time to pose the utopian aim of the university in India: to solve problems of the community through the knowledge at its command.

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CLASSIFIED ADS

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- Professors (17)—in Engg; Eco; Eng; His; Pol. Sc; Ind. Theatre
- Readers (25)—in Eco; Phil; Pgy; Hindi; Maths; Eng. History; Pol. Sc;
- Lecturers (22)—in Eco; Chem; Engg. Geo; Edn; Pol. Sc; Chem; Maths; Zoo; Journalism; Law.

REGIONAL ENGINEERING
COLLEGE, NASEEM BAGH,
SRINAGAR, KASHMIR

ADVERTISEMENT NOTICE No. 3/72

Applications are invited for the following posts on the prescribed application forms obtainable from the Registrar of this College on receipt of postal order for Rs. 1/-.

1. Professor, Electrical Engineering—One post Scale Rs. 1100-50-1300-60-1600

Minimum Qualifications: 1st class Master's Degree in Electrical Engineering with about ten years teaching/Industrial/Research experience.

Desirable Qualifications: Doctorate degree or published work of similar standard and of guiding research. Preferably specialisation in electronics, communications or control. Experience of educational administration.

2. Assistant Professor, Electrical Engineering—Two posts (1 temporary) Scale Rs. 700-40-1100-50/2-1250

Minimum Qualifications: 1st class Master's degree in the discipline with five years teaching/Industrial/Research experience.

Desirable Qualifications: Doctorate degree or published work of similar standard.

Qualifications will be relaxed in the case of candidates, who are found otherwise suitable for the post.

Last date for receipt of application on the prescribed form in the college is 10-6-1972. Persons already employed should apply through proper channel.

UNIVERSITY OF SAGAR ADVERTISEMENT No. R. 2A/72

With reference to our Advertisement No. R. 7/72 dated 26.4.72 regarding the post of 'UNIVERSITY REGISTRAR', it is notified that applications for the

Post be addressed to the undersigned by name.

Sd/- (S. J. Naidu.)
Registrar,
University of Sagar,
Sagar (M. P.)

THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA

Notification No. 5

Applications in the prescribed forms are invited for the following posts in the grade of Rs 700-50-1250 plus D.A., P.F., H.R.A. and gratuity benefit as per rules.

Faculty of Commerce (1) Reader in Accounts (2) Reader in Transport

Faculty of Technology and Engineering (1) Reader in Chemical Engineering

Prescribed application forms and details of qualifications will be available from the Registrar on presentation of Crossed Postal Order of Re. 1/- only.

The application form should be accompanied by Crossed Postal Order of Rs. 7.50 and should reach the Registrar on or before 17th June 1972.

Only the most suitable candidates will be called for interview.

K. A. Amin,
University Registrar

No. ADE/H/SEL/651

M. S. University of Baroda,
Baroda : 12th May. 1972.

PUNJAB UNIVERSITY

ADVERTISEMENT No. 22/72

Applications are invited for the following post so as to reach to Registrar, Punjab University, Chandigarh by 12th June 1972, along with postal orders for Rs. 7.50.

Pay Scales

1. Professor Rs. 1100-50-1300-60-1600
2. Reader Rs. 700 50-1250
3. Lecturer, Assistant Director/Assistant Director/Technician-cum-Lecturer Rs. 400 40-800-50-950
4. Instructor/Junior Lecturer Rs. 350-25-600
5. Coach Rs. 300-25-600

Allowances as admissible under the University rules. Benefit of Provident Fund on confirmation. Appointments will be on one year's probation.

I. P. U. Evening College Chandigarh

1. Reader in English 1
2. Reader in History 1
3. Lecturer in Political Science 1
4. Lecturer in History 1
5. Junior Lecturer in Sociology 1

II. P. U. Evening College, Rohtak

1. Junior Lecturer in Mathematics 1

III. P. U. Regional Centre for post Graduate Studies, Rohtak

1. Professor of English 1
2. Professor of Political Science 1
3. Reader in Mathematics 1
4. Lecturer in Mathematics 1

IV. Department of anthropology

1. Reader in Physical Anthropology preferably with experience of research in the field of Human Genetics and Biochemical Anthropology supported by published work. 1
2. Lecturer in Anthropology preferably trained in pre-historic Archaeology 1

V. Department of Gandhian Philosophy

1. Lecturer 1

VI. Department of Biochemistry

1. Reader 1
2. Lecturer with specialisation in any one of the following: Enzymology/Biochemical genetics/Biochemistry of Trace Elements. 1

VII. Department of Biophysics

1. Lecturers with specialisation in Molecular Biophysics/Medical Biophysics/Radiation Biophysics 2
2. Technician-cum-Lecturer with experience of handling Electron Microscope and ancillary electronic equipment. 1

VIII. Department of Chemical Engineering & Technology

- Professors 3
- Reader 1

IX. Department of Chemistry

- Lecturer 1

X. Department of ancient Indian History, Culture & Archaeology

- Professor 1

XI. Department of Education

- Readers 2
- Lecturer 1

XII. Department of French

- Junior Lecturer in French 1

XIII. Department of Fine Arts

- Lecturer 1

XIV. Department of Geography

- Lecturer with thorough training in Quantitative Geography preferably holding Doctoral Degree in one of the branches in Applied Geography and having made ample use of Quantitative methods in doctoral work. 1

XV. Department of Philosophy

- Reader with specialisation in Logic or Philosophy of Culture. 1

XVI. Department of Hindi Readers 2

XVII. Department of History Reader 1

XVIII. Department of Journalism
Lecturer preferably with experience in teaching of subject and also newspaper/news agency. 1

XIX. Department of Laws
Reader 1
Lecturers 2

XX. Department of Mathematics
Readers (one post is reserved for applied Mathematics and for the other post candidates in Analysis will be preferred). 2
Lecturer in Numerical Analysis. 1
Instructors 2

XXI. Department of Physical Education
Reader 1
Assistant Director 1
NIS Trained Coaches 4

(i) Athletics 1
(ii) Swimming 1
(iii) Hockey 1
(iv) Badminton 1 (only Women need apply)

XXII. Department of Psychology
Reader with specialisation in Clinical Psychology or Guidance and Counselling. 1

XXIII. Department of Russian
Reader 1

XXIV Office Dean of Students Welfare
Assistant Directress Physical Education. 1

QUALIFICATIONS

Professors/Readers
Essential

- (i) A first or second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the relevant subject with bright academic record.
- (ii) Either a research degree of doctoral standard or published research work of a high standard in journals of repute.
- (iii) About ten years' experience in the case of Professor and five years' in case of Reader of teaching post-graduate classes at a University of College level.
- (iv) Experience of guiding research both at post-graduate and post-doctoral levels.

Desirable

- (v) Knowledge of a foreign language other than English.

Lecturers/Junior Lecturers/Instructors/Assistant Director/Technician-cum-Lecturer.

Essential

- (i) A first or second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the relevant subject.

Desirable

- (ii) Published research work; and
- (iii) Doctoral Degree and teaching experience to post-graduate classes.

Note(i) Candidates for the post of Lecturer in Gandhian Philosophy should hold first or high second class Master's Degree in Political Science, Economics, History Philosophy or Public Administration. They should be able to teach Gandhian Thought specially Economic Thought of Mahatma Gandhi or Theory of Non-Violence. Certificate/Diploma in Gandhian Philosophy will be additional qualification.

- (ii) Candidates for the posts of Instructors in the Department of Mathematics should have bright academic career with at least first class Master's degree in Statistics with training in practicals on Inference and Multivariate Analysis; Non-Parametric methods, Sampling and Design of Experiments. Practical training in branches of Applied Statistics (Quality Control, Time Series and Linear Programming etc.) will be desirable.

- (iii) Candidates for the post of Junior Lecturer in French should possess the following qualifications:

Professor at or Diploma Supérieur d'Etudes Françaises Modernes.....of Alliance Française

or

First or Second class M.A. in French with at least Diploma in French either from Alliance Française or from Sorbonne, the University of Paris.

- (iv) Candidates for the post of Reader in Bio-Chemistry should be First Class M.Sc. in Bio-chemistry/Doctorate Degree with specialization in Plant Bio-chemistry (Trace Elements) or with sufficient research publications in the specialization concerned. He must possess experience of guiding research and also at least five years teaching experience to postgraduate classes in Plant Biochemistry. Additional qualifications in Phytobiology will be preferred.

Assistant Directress

- (i) A Master's Degree in Physical Education or in any Arts/Science subject with at least a second class Diploma/Degree in Physical Education.
- (ii) Five years' experience as Directress of Physical Education in a College/Sports organisation of repute.

Coaches

Diploma/Degree in Physical Education and N.I.S, Certificate in the pertinent game/sport. Those

with outstanding record of performance (such as University or State representation) in the game/sport concerned and with coaching experience in college/University shall be preferred.

Persons already in service should route their applications through their employers.

Application forms can be obtained from the Office of the Finance & Development Officer, Punjab University Chandigarh, by making a written request accompanied with a self-addressed stamped envelope of 23 x 10 cms.

BERHAMPUR UNIVERSITY

Berhampur-7, Ganjam, Orissa

ADVERTISEMENT

Applications are invited for the following teaching Posts for the Post Graduate Departments of the University.

1. Political Science Professor one
2. Mathematics Reader one
Lecturer two
3. Economics Reader one
Lecturer two
4. Chemistry Lecturer two

Scale of pay:

Professor Rs. 1100-50-1300-60-1600/-
Reader Rs. 700-50-1250/-
Lecturer Rs. 400-40-800-50-950/-
plus usual dearness allowance

Qualification and Experience

1. **Professor:** The candidate shall have

- (i) A good academic record
- (ii) At least five years experience as a Reader preferably with experience of teaching in P.G. Classes and a total teaching experience of not less than 10 years.

- (iii) Research Degree or outstanding Published work of equivalent standard.

- (iv) Ability to guide research work.

2. **Reader:** The candidate shall have

- (i) A first class or high second class Master's Degree in the subject with at least 55% marks.
- (ii) A research Degree of Doctorate standard or published work of equivalent standard in the subject.
- (iii) At least eight years teaching experience of which at least two years should be in P.G. Classes.

Research experience up to a maximum of three years will be treated as teaching experience provided he has obtained a Doctorate Degree.

3. **Lecturer:** The candidate shall have

- (i) A First class Master's Degree in the subject with one year teaching or research experience.

or

A high Second class Master's Degree in the subject with at least 55% marks with a minimum of

two years teaching experience in a Degree College or two years recognised Research experience.

or

A Master's Degree with a Doctorate in the speciality concerned.

Seven copies of Prescribed application form will be supplied to the candidates from the office of the undersigned on payment of Rs. 1.50 paise in person or by Postal order payable in favour of the Registrar, Berhampur University along with a self addressed envelope measuring 22 x 10 Cms. affixed with postage stamps worth 0.85 paise (including Refugee Relief Stamp worth of 0.05 paise). No money order will be entertained for the purpose.

The applications duly filled in should reach the undersigned on or before 17/6/72. Applications received after the due date will not be entertained.

Candidates who are in service should apply through proper Channel.

INDUSTRIAL DESIGN CENTRE INDIAN INSTITUTE OF TECHNOLOGY, POWAI, BOMBAY-76 NB

Advertisement No. 719

Admission to Postgraduate Diploma Course in Industrial design (DIT) 1972-73 Session Commencing from Sept. 72

Applications in the prescribed forms are invited for admission to the above course. The course is of fifteen months' duration and the candidates will be required to stay in the Institute's hostels.

Entrance requirements: A degree in Engineering or Architecture with aptitude for art.

Admission is restricted to 10 candidates only. Applications supported by Industries with an assurance of employment in their design sections, on completion of the course, will be given preference. Candidates will be awarded a scholarship of Rs. 250/- per month for duration of the course.

Application form can be had from the Deputy Registrar (Academic), Indian Institute of Technology, Powai, Bombay 76 (NB), by enclosing a self-addressed stamped (35 paise plus 5 paise for refugee relief) envelope of size 29x10 cms and superscribed 'Admission to Postgraduate Diploma Course in Industrial Design'. Completed application with I.P.O. of Rs. 5/- must reach the Institute by 30th June 1972.

ANDHRA UNIVERSITY

School of Correspondence Courses

APPLICATIONS ARE INVITED from qualified candidates within India for admission to the following Correspondence Courses which will be started

from the academic year 1972-73. The Courses shall commence from 1.7.1972.

1. First Year of three year B. A. Degree (History, Economics and Politics).

2. First year of three year B. Com. Degree.

Media of instruction: ENGLISH or TELUGU.

Certificate as to exemption from attendance at a College, issued by the Registrar, Andhra University, Waltair, has to be obtained prior to seeking admission into the School of Correspondence Courses.

The University will not admit to the examinations in the above subjects any fresh non-collegiate candidates from the first year examinations to be held in March-April 1973 unless they enrol themselves for the correspondence courses in the subjects mentioned.

Intending candidates may write to the undersigned for Prospectus, Syllabus and Application Forms for exemption and admission by sending Rs. 5/- (Rupees five only) by Money Order.

Professor K. V. Sivayya
Honv. Director

INDIAN INSTITUTE OF TECHNOLOGY I. I. T. POST OFFICE KANPUR

Advertisement No. 12/72

Applications are invited for various faculty positions in the departments of Mechanical Engineering and Mathematics. Depending upon their qualifications and experience, the selected candidates may be offered any of the following positions:-

Professor Scale Rs. 1100-50-1300-60-1600 (Sr. Scale Rs. 1660-100-1800)

Associate Professor Rs. 1100-50-1300

Assistant Professor Rs. 700-50-1260

Lecturer Rs. 400-40-800-50-950

1. Mechanical Engineering

The department has well developed undergraduate and postgraduate programmes and laboratory facilities. The areas of teaching and research interest in the department are Engineering Design, Mechanics of Solids Thermal Environmental Engineering, Automatic Controls and Fluidics, Industrial Engineering, Production Engineering, Fluid Mechanics and Gas-dynamics. Qualifications expected of candidates for various positions are listed below.

1. Professor, Associate Professor; Excellent academic record including Bachelor's Degree in Mechanical Engineering and Doctorate Degree in Mechanical Engineering, Post-doctoral research and teaching experience; experience in laboratory development; Design and Development work in professional areas as well as industrial problems.

Positions are available in the following areas:

Engineering Design
Automatic Control Engineering
Thermal Environmental Engineering
Industrial Engineering
Production Engineering
Energy Conversion

2. Assistant Professor and Lecturers Excellent academic record including Bachelor's Degree in Mechanical Engineering as well as Doctorate Degree in Mechanical Engineering, Post-graduate research and teaching experience.

Positions are available in the following areas:

Automatic Controls and Fluidics
Refrigeration & Air conditioning
Industrial Engineering
Production Engineering
Energy Conversion

3. Qualifications relaxable in excellent cases with outstanding experience in industry or public organization.

2. Department of Mathematics:

Candidates for all posts should, in general, have high academic attainments, professional competence, research and teaching experience and such other attributes that will enable them to make an effective contribution to academic programmes in the Institute. Candidates who have published good research publications and who have potential ability to guide research and to build research groups will be given preference. Qualifications are relaxable in exceptional cases with outstanding experience in industry or public organizations.

The Department has its own M. Sc. and Ph. D. Programmes. There are at present forty-five full-time research scholars working for their Ph. D. degrees.

The specialisations required are in Algebra, Analysis, Topology, Numerical Analysis, Continuum mechanics, Operational research and Mathematical Statistics. Fields of interest, indicated above, in which candidates are available, are broad and persons qualified in allied subjects or specialised may also apply.

The Indian Institute of Technology, Kanpur is an institution of National Importance and has been assisted by a consortium of nine leading U.S. educational institutions through Kanpur Indo-American Programme. The institution has IBM 1401, 7044 and 1620 systems and a group of experienced programmers. Besides, the departmental facilities, the following central facilities are available.

Liquid nitrogen and Liquid helium plants, NMR, EPR Mass Spectrometer X Rays, U V and I R Spectrometers. Glass blowing, electronics shop and a precision machine shop, besides a large workshop for the fabrication of specialized research apparatus. The institute has a well developed first rate Central Library with more than 1,00,000 volume and 1300 periodicals.

Excellent residential housing is provided on Campus. The Campus facilities include two Schools (one

	Title	Author	Pages	Price
HISTORY				
	A History of Africa (1918-1967)		540	8-60
PHILOSOPHY				
	Fundamentals of Dialectical Materialism	G. Kursanov & others	323	3-30
	Historical Materialism. Basic Problems	G. Glezerman, G. Kursanov & others	333	3-00
LAW				
	Fundamentals of Soviet Law	Ramashkin		3-40
EDUCATION				
	Problems of Soviet School Education	A. S. Makarenko	154	1-80
LEARNING RUSSIAN				
	Russian. practical Grammar with Exercises	I. Pulkina & E. Zakhava	625	5-75
MEDICINE AND BIOLOGY				
	Atlas of the Operation on the Rectum and Colon	A. Ryzhikh	335	24-00
	Atlas of Surgical Anatomy of the Lower Extremity	Kovanov		
	Control of Communicable Diseases in the USSR	Zhdanov		
	Corneal Transplantation in Complicated Leukomas	Pushkovskaya	212	5-40
	Drugs and Medicinal Preparations	Ministry of Health (USSR)		
	General Biology	Nekrasov		
	Human Physiology	Babsky	419	8-30
	Mechanical Suture in Vascular Surgery	P. Androsov	149	3-50
	Microbiology	K. Pyatkin	584	8-50
	Prevention of Maternal and infant Diseases	Makeyev		
	Psychiatry	Portnov & Fedorov	371	7-25
	Resection and Plastic Surgery of Bronchi	B. Petrovsky	243	6-00
	Skin and Venereal Diseases	Fadeyev	352	6-00
	State Pharmacopia in the USSR	Ministry of Health (USSR)		12-60
	Textbook of Biology	Karuzina		
	The Word as a Physiological and Therapeutic Factor	Platonov	452	11-90
POPULAR SCIENCE				
	ABC's of Quantum Mechanics	Rydnik	330	3-25
	Animal Travellers	I. Akimushkin	378	3-00
	The Mystery of the Earth's Mantle	A. Malakhov	231	1-80
	Origin of the Earth and Planets	Levin		
	Psychology and Space	Gagarin & Lebedev	271	2-10
	Relativity and Man	Smilga	346	2-40
	Sounds and Signs	A. Kondratov	285	2-00
	Space and Time Perception	A. Leonov & V. Lebedev	200	1-60

REFERENCE BOOK

PHYSICS

Antennas

G. Markov 512 7-25

Industrial Radiology—Flaw Detection

S. Rumyantsev 282 7-10

CHEMISTRY

Laboratory Exercises in General Chemistry

V. Semishin 343 7-20

Title	Author	Pages	Price
Textbook of General Chemistry	B. Nekrasov	480	7-20
MATHEMATICS			
A Brief Course of Analytical Geometry	N. Yefimov	251	6-00
Descriptive Geometry	N. Krylov		
	P. Lobandiyevsky, S. Men	384	7-20
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The Exploitation and Development of Oil and Gas Deposits	I. Muravyov & others	503	7-20
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Thinking Machines	L. Gantmacher	185	3-00
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Electrical Equipment for Industry	Lipkin	277	6-00
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	Piotrovsky Part II	682	9-50
The Industrial Electrician	N. Vinogradov	313	4-30
Industrial Wiring	Polyakov & Kovarsky	308	4-80
Mine Electrician	Y. Mikheyev & Faibisovich	465	7-20
Switchgear Installation	M. Kireyev & A. Kovarsky	383	4-80
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Propagation of Radio Waves	M. Dolukbanov	375	8-00
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Elements of Railway Surveying	Bezruchko	207	3-00
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Engineering Physical Metallurgy	Lakhtin	464	7-20
Forging Practice	Kamenshikov & others	412	7-20
Fundamentals of Heat Transfer	M. Mikheyev	375	7-20
Fundamentals of Milling Practice	S. Avrotin	330	3-60
Heat Treatment of Metals	Zakharov	172	7-20
Steel Foundry Practice	P. Bidulya	320	6-00
MACHINES AND MECHANISMS			
Automatic and Semi-Automatic Lathes	B. Boguslavsky	480	6-30
Bench Work Practice	N. Makarenko	475	5-60
Elements of Lathe Work	B. Brushtsin & Dementyev	443	6-60
Fish Processing Equipment	N. Chupakhin & V. Dormenko	531	7-20
Handbook of Lathe Operators & Foreman	S. Fomin	265	3-00
Industrial Radiology—Flaw Detection	S. Rumyantsev	275	7-10

Contd. on Page 33

University News, June 1972

Primary and the other Higher Secondary) a well equipped Health Centre and Shopping Centre.

The posts except Associate Professors and Lecturers are permanent and carry retirement benefits in the shape of C.P.F.-cum-gratuity scheme of G.P.F.-cum-Pension-cum Gratuity Scheme. Appointments to the posts of Associate Professor and Lecturer will be on Contract.

The age of retirement is 60 years. Besides pay, posts carry allowances according to the Institute rules, which at present correspond to those admissible to Central Government employees stationed at Kanpur. Higher initial pay is admissible to specially qualified and deserving candidates. Candidate called for interview will be paid second class Railway fare from the place of duty to Kanpur and back by the shortest route.

Applications from persons in India should be made on the prescribed forms obtainable free of charge from the Registrar of the Institute by sending a self-addressed unstamped envelope of 25 cm x 10 cm size. Applications should be accompanied by a postal order for Rs. 7.50 (Rs. 1.87 for Scheduled Castes/tribe candidates).

Persons abroad may apply on plain paper (three copies) including an account of their academic and professional record and records of publications, fields of specialization etc. They should also give names of at least three persons who are intimately acquainted with their academic activities.

All applications should reach the Registrar, Indian Institute of Technology, IT Post Office Kanpur-16 by July 15, 1972.

OSMANIA UNIVERSITY HYDERABAD-7 (A.P.)

Advertisement No. 2/1972.

As many representations have been received orally stating that the time given was too short and they could not reply, the last date prescribed for receipt of applications for the post of "LECTURER IN LINGUISTICS" is extended upto 20.6.1972

Sd/-
Registrar

UNIVERSITY OF DELHI

Applications are invited for the following posts:-

1. Economics—(i) Professors (ii) 1 Professor in Mathematical Economics (temporary) (iii) 4 Readers (3 permanent and 1 temporary) (iv) 1 Senior Research Fellow (Area Study Programme) (v) 3 Junior Research Fellowships (2 in the Centre of Advanced Study and one in transport economics) (vi) 2 U. G. C. Research Fellowships

University News, June 1972

2. History—1. Professor (European and/or British History)

3. Political Science—2 Readers (of these one is Political Theory) 1 Lecturer 4 Modern Indian Languages—1 Lecturer in Telugu—1 temporary lecturer in Bengali for the period ending 15th May, 1973.

5. Sociology—1 Lecturer

The scales of pay for the posts are:-

(a) Professor: Rs. 1100.50-1300.60-1600

(b) Reader: Rs. 700.50-1250

(c) Lecturer: Rs. 400.40-800.50-950

(d) Senior Research Fellow Rs. 500/- fixed without allowances

(e) Junior Research Fellow and U.G.C. Research Fellow Rs. 300/- fixed without allowances

A sum of Rs. 1000/- per annum is available to Junior Research Fellows in Economics for contingent expenditure.

All the posts (other than that of Senior Research Fellows and Junior Research Fellows and U. G. C. Research Fellows) carry Dearness, City Compensatory and House Rent Allowances as admissible according to the University rules in force from time to time.

General Qualifications

(a) For Professorship

A scholar of eminence.

Independent published work of high standard and experience of teaching post-graduate classes and guiding research for a considerable period desirable.

(b) For Readership

Good academic record with a first or a high second class Master's Degree followed by a Doctorate Degree or equivalent published work in the subject concerned.

Independent published work (in addition to the published work referred to above) with at least five years teaching experience in Honours/Post-graduate classes essential.

(c) For Lecturerships

Good academic record with a first or a high second class Master's Degree or an equivalent Degree of a foreign University in the subject concerned.

(d) For Senior Research Fellowships.

Good academic record with a first or high second class Master's Degree in Economics followed by a Doctorate Degree or equivalent published research work, and aptitude for original and independent research.

(a) For Junior Research Fellows and U.G.C. Research Fellowships

First or high second class Master's Degree in Economics of a recognised University and evidence of aptitude for research work.

Note: The Fellows shall ordinarily be not over 35 years of age in case of Junior Research Fellowships/U.G.C. Research Fellowships, and 40 years in the case of Senior Research Fellowships. The Senior Fellowship is initially for a period of two years but further extension by one year is possible. The Junior Fellowships are normally for a period of three years.

B. Special/Desirable Qualifications

1. For Readership in Economics

Specialisation and research achievements in any field of Theoretical or Applied Economics, e. g., International Economics, Economics of public Sector, Agricultural or Industrial Economics, Socialist Economics, Econometrics or a specialisation in the Economics of any country or region etc.

2. For Lecturership in Telugu

A person with good knowledge of English and/or Hindi will be preferred.

Applications for senior, junior and University Grants Commission Research Fellowships, may be made on plain paper giving details of age, academic qualifications, experience of teaching, research and publications etc. and be sent direct to the Head of the Department of Economics, University of Delhi, Delhi-7.

The prescribed application forms for the other posts can be had from the Registrar's Office (Room No. 9) either personally or by sending a self-addressed envelope and stamp worth Rs. 1.35 paise to cover postage.

Applications along with the attested copies of Degrees and other Certificates etc. should reach the undersigned not later than 15th June, 1972.

Selected candidates will be required to produce the original documents relating to their qualifications and experience etc. before they join the appointment.

Note:

(1) It will be open to the University to consider the names of suitable candidates who may not have applied. Relaxation of any of the qualifications may be made in exceptional cases in respect of all posts on the recommendation of the Selection Committee.

(2) Candidates called for interview for the posts of Professors, Readers and Lecturers from outside Delhi will be paid one way second-class Railway fare.

(3) Canvassing in any form by or on behalf of the candidates will disqualify.

(K. P. Govil)
Registrar

SAURASHTRA UNIVERSITY

Applications in the prescribed forms are invited for the posts of (1) JOINT REGISTRAR: Pay scale Rs. 700.50-1250 (2) Reader in EDUCATION: Pay scale Rs. 700.50-1250 Lecturers in (3) BIO-SCIENCES (4) CHEMISTRY (5) MATHEMATICS: Pay scale Rs. 400.40-800.50-950 Lecturers (Senior Scale) in (6) ZOOLOGY (7) ECONOMICS: Pay scale Rs. 400.40-800.50-950 (8) Tutor in HISTORY and (9) Demonstrator in PHYSICS: Pay scale Rs. 250-350-400.

All posts are permanent and carry benefits of contributory provident fund as per University rules, posts at Sr. No. 2 to 5 are for University Departments and P.G. Centres. Posts at Sr. No. 6 to 9 are for University Colleges at Bhavnagar. Dearness allowance and House

Rent allowance will be paid as per University rules. Higher initial salary in the scale may be considered in case of exceptionally qualified and experienced persons. Qualifications and experience relaxable in special cases. Candidates in employment must submit their applications through their present employer. Candidates if not knowing Gujarati will be required to pick up Gujarati within a reasonable period.

Age ordinarily not exceeding 43 years for post at Sr. No. 1 and 55 years for others.

Application forms and details of qualifications required will be available from the Registrar, Saurashtra University, Rajkot on sending a self addressed envelope of the size 23 cm x 11 cms with postage stamps worth 35+5 for post No. 1 and 65+5 paise for others.

Application (One copy in case of post No. 1, six copies in case of post No. 2 and four copies in case of others) accompanied by Indian postal order (for Re. 1/- in case of post No. 1, Rs. 5/- in case of post No. 2 and Rs. 9/50 in case of others) crossed in favour of Registrar, Saurashtra University, Rajkot should reach this office on or before 15th June 1972.

V. M. DESAI,
Registrar

Indian Institute of Technology IIT Post Office

Kanpur

Advertisement No. 11/72

Applications are invited for various faculty positions in (i) Philosophy (ii) Sociology and (iii) English in the Department of Humanities and Social Sciences depending upon their qualification and experience, the selected candidates may be offered any of the following positions:

Professor Rs. 1100-50-1300-50-1600

(Senior scale Rs. 1600-100-1800)

Associate Professor Rs. 1100-50-1300

Assistant Professor Rs. 700-50-1250

Lecturer Rs. 400-40-800-50-950

Qualifications :

1. English : Specialization in (i) Modern Literature or modern Indian Literature in English (ii) Linguistics (with basic degree in English), and (iii) teaching of English as a second language. Experience of work in language laboratories will be considered as additional qualifications.

2. Philosophy : Specialization in the following fields of Indian or

Western Philosophy (i) Ethics, (ii) Logic, (iii) Metaphysics (iv) Philosophy of Science including Philosophy of natural or social Sciences (i) Epistemology, (vi) Philosophy of language (vii) Philosophy of History, (viii) Social and Political Philosophy. Preference will be given to those having inter-disciplinary training and interest. For Indian Philosophy, preference may be given to those who have studied through original sanskrit texts.

3. Sociology : Specialization in (i) Industrial and Urban Sociology (ii) Organization Theory and Management (iii) Sociology of Development (iv) Sociology of Administration. Preference may be given to candidates who are proficient in the use of quantitative techniques and/or computer and/or have a strong grounding in theory.

All applicants must have an outstanding academic record. Applicants for higher positions (Assistant Professor and above) should have a Ph.D. degree from a recognised university. Those for lecturership should have a first class or high second class M.A. Degree and a strong academic career. Preference will be given to those who have a Ph.D. degree. Prospective faculty members will be judged on their ability to do creative research and the potential for growth as well as on their teaching ability and experience. Qualifications are relaxable in exceptional cases with outstanding experience in industry or public organisations.

The fields of specialization mentioned above should not be taken in restrictive manner. Those having their formal schooling in allied disciplines may also apply.

The Department of Humanities and Social Sciences gives undergraduate courses to the students of technology and post-graduate (Ph.D level) courses to research students. At present Ph.D. programmes which include both course work and dissertation, are available in Economics, Philosophy, and Sociology. Other disciplines are also likely to have doctoral programmes in the near future.

The general research facility at the Institute includes a growing library and a computer centre. The Department also has a Psychology laboratory and a language laboratory. Residential housing is provided on campus. The campus facilities include two schools, a well-equipped hospital and a shopping centre.

The posts other than Associate Professor are permanent. Associate Professor is a contract appointment for a 3-year period. Some of the appointments may be on contract basis for two years. The posts carry retirement benefits in the shape of C.P.F.-cum-gratuity scheme or G.P.F.-cum-Pension Gratuity Scheme. The age of retirement is sixty years. Besides the pay, the posts carry allowances according to the Institute rules, which at present correspond to those applicable to the Central Government employees stationed at Kanpur. A higher initial pay is admissible to specially qualified and deserving candidates. Candidates called for interview will be paid second class railway fare from the place of duty to Kanpur and back by the shortest route.

Applications should be made on the prescribed forms, obtainable from the Registrar of the Institute by sending a self addressed unstamped envelope of 25 x 10 cm. Applications accompanied by a postal order of Rs. 7.50 (187 for Scheduled Caste/Tribe candidates), should reach the Registrar by 30th June, 1972. Those who had applied earlier in response to Advertisement No. 16/71 need not apply again.

Indian School of Mines Dhanbad.

Advertisement No. 2/72

Applications are invited for the undermentioned posts. Age relaxable for candidates well qualified. Higher initial pay may be granted to specially qualified and experienced candidates. Those who are in service should apply through proper channel. If applications through proper channel are likely to be delayed, an advance copy may be submitted, but in such a

Machine Elements	Title	Author	Pages	Price
Metal Cutting Machine Tools		Dobrovolsky & others	576	8-40
Truck Cranes		A. Gavryushin & others	383	8-60
		Astakhov		
MINING				
Safety in Open Cast Mining		N. Melnikov & M. Chesnokov	390	7.25
WOODCRAFT				
Science of Wood		L. M. Perelygin	200	5.40
HISTORY				
Ancient History (for schools)		Korovkin		
Constitution of the USSR			116	1.20
A Short History of the USSR (Part I)			334	4.80
A Short History of the USSR (Part II)			413	4.80
LAW				
An Introduction to the Theory of Evidence		A. Trusov	262	2.60
MEDICINE AND BIOLOGY				
Diseases of Thyroid Gland		Khavkin & S. Nikolayev	260	5.50
Infectious Diseases		K. Bunin	450	7.25
Know Your Child		N. Tur	266	3.00
Lesions of the Nervous System				
Associated with Internal Diseases		E. Lure	256	5.10
Natural Nidality of Transmissible Diseases		E. N. Pavlovsky	426	6.60
obstetrics and Gynaecology		A. Kaplan	329	4.80
Oral Live Poliovirus Vaccine		N. P. Chumakov (Editor)	638	19 20
Painless Childbirth Through Psychoprophylaxis		Velkovsky & others	416	7.50
Paranasal Sinuses and Diseases of the Orbit		F. Dobromylsky & I. Scherbatov	220	6.50
Pathologic Physiology		D. Alpern	475	7.20
Propedeutics of Children's Diseases		V. Molchanov & others	391	7.20
Rickets		M. Bessonova	166	3.50
Selected Physiological and Psychological Works		Sechenov	608	10.70
Selected Works		I. P. Pavlov	662	3.85
Strengthen Your Heart		Zelenin	134	2.30
Textbook of Physiology		K. M. Bykov	757	10.15
Textbook of Surgery		A. Velikoretsky	457	7.20
Tuberculosis		Prof. V. L. Einis	210	6.00
LEARNING RUSSIAN				
Conjugation of Russian Verbs		Pirogova & Makarova	312	4.80
Exercises in Russian Syntax—Complex Sentences		S. Neverov		2-30
Exercises in Russian Syntax—The Simple Sentence		V. S. Belevitskayakhvalizeva	251	1-75
Learning Russian (in 4 parts)		N. Potapova Part I	208	
		" II	172	
		" III	158	each 1-70
		" IV	152	
Lexicology and Phraseology		Sazonova		

Title	Author	Pages	Price
Russian	V. N. Wagner & Y. G. Ovsienko	645	10-00
Russian As We Speak it	S. Khavronina	276	2-40
Russian-English Scientific and Technical Dictionary	G. Zimmerman	294	8.95
The Russian Verb—Aspects and Voice	A. Vilgelminina	144	1-20
POPULAR SCIENCE			
In the Search of Beauty	V. Smilga		
In the World of Isotopes	Mezentsev	53	0.30
What is the Theory of Relativity	Lahdau & Rumer	65	0-65



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6/30, Mount Road, Madras.
Madurai, Coimbatore,
Tiruchirapally, Tanjaur

case original applications should invariably reach this office within 15 days of the last date prescribed for receipt of applications. Besides pay, the posts carry allowances according to rules which at present correspond to those admissible to Central Government employees.

Prescribed application forms for the post will be supplied from the office of the Registrar, Indian School of Mines, Dhanbad, on receipt of a self addressed envelope of the size 29x12 cms. and affixed with postage stamps of the value of Rs. 1.75. Applications should be accompanied by a Money Order receipt of Rs. 8/- (Rs. 2/- for Scheduled Castes/Tribes candidates) Candidates called for interview for the post will be paid second class Railway Fare for to and from journey by the shortest route. Applications must reach the Registrar, Indian School of Mines, Dhanbad on or before 25th June, 1972.

One Assistant Professor (Mechanical Engineering), Department of Engineering Post - at present temporary but likely to become permanent. Pay—Rs. 700-50-1250 Age—As on 1-6-1972 45 years and below. Qualifications—*Essential* :- (i) Master's Degree or Honours Degree in Mechanical Engineering of a recognised University. (ii) Specialised knowledge in one or more branches of Mechanical Engineering. (iii) About 6 years professional experience including teaching and/or research, three years of which should be in a responsible capacity. *Candidates should have secured at least 60 per cent marks in the aggregate in the qualifying examinations. Desirable*:- (i) Full membership of a recognised professional institution. (ii) Research experience and/or published papers.

One Assistant Professor (Metalliferous Mining), Department of Mining. Post Permanent. Pay—Rs. 700-50-1250/-. Age as on 1-6-72-45 years and below. Qualifications—*Essential* :- A good Degree with not less than 60 per cent marks in the aggregate in the qualifying examination in Mining of a recognised University/Institution or Diploma in Mining of the Indian School of Mines, Dhanbad, or

equivalent qualifications. (ii) About 6 years professional experience in Metal Mining including teaching in an institution of Degree level (three years in case of candidates with post-graduate Degree). Other things being equal, preference will be given to holders of Post-graduate degrees. *Desirable*:- Post-graduate degree in Mining Engineering. (iii) Proficiency and experience in Mine Surveying and Mineral Dressing. (iv) Experience of working of metalliferous mines in foreign countries. (v) Research experience and research publications.

(A. SUBRAMANIAN)
Registrar

PANJAB UNIVERSITY

(Advertisement No. 26/72)

Applications are invited for the following posts so as to reach the Registrar, Panjab University, Chandigarh, by 24th June, 1972 along with Postal Orders for Rs. 7.50.

Pay Scales :

1. Professor : Rs. 1100-50-1300-60-1600.
2. Reader : Rs. 700-50-1250.
3. Lecturer : Rs. 400-40-800-50-950

Allowances as admissible under the University rules. Benefit of Provident Fund on confirmation. Appointments will be on one year's probation.

I. Department of Political Science Lajpat Rai Professor of Political Science.

Qualifications : Candidates should have brilliant academic career followed by outstanding research work in the subject of Political Science. They should have teaching experience of post-graduate classes or experience of post-doctoral research and should be competent to guide research of a high standard.

II. Department of Indian Theatre Professor : 1

Qualifications :

Essential :

1. Thorough knowledge of the theory of drama, especially Indian drama and practical acquaintance

with modern stage-craft and Dramaturgy with experience of staging plays on a professional or semi-professional level.

2. Experience in the teaching of theatre arts.

3. 10 years' experience in the production of plays in various styles.

4. Master's degree in theatre arts, literature or on allied subject.

Desirable :

Special achievements in Indian drama at national level or work of recognised merit as a creative playwright.

Reader : 1

1. Master's degree in 2nd class in theatre arts from any known institute or university.

2. A research degree or published work of a high standard in western theatre, or any special achievement in acting or direction.

3. About five years' teaching experience of acting and direction in any known university or college in India or abroad.

Lecturer : 1

1. Master's degree in 2nd class in theatre techniques, from any known institute or university.

2. At least two years' experience of teaching in a University or known theatre school, or practical experience of science design, theatre architecture, costumes and lighting in an established theatre.

Persons already in service should route their applications through their employers.

Application forms can be obtained from the office of the Finance & Development Officer, Panjab University, Chandigarh, by making a written request accompanied with a self addressed stamped envelope of 23x10 cms.

University News

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PUNJAB AGRICULTURAL UNIVERSITY, LUDHIANA

ADMISSION NOTICE

Applications are invited for admission to the following M. Sc. programmes :—

<i>Department & Subject</i>	<i>No. of Seats</i>	<i>Department & Subject</i>	<i>No. of Seats</i>
AGRONOMY (Agronomy, Weed Control, Crop Production, Irrigation)	15	ECONOMICS & SOCIOLOGY :-	
ANIMAL SCIENCES :-		Economics	12
Animal Breeding	5	Sociology	3
Animal Nutrition	3	Agricultural Finance	5
Animal Production		GENETICS	8
Physiology and Livestock Production and Management	3	LANGUAGES & CULTURE :-	
EXTENSION EDUCATION	4	Journalism	7
AGRICULTURAL EDUCATION	5	MATHEMATICS & STATISTICS :-	
ENTOMOLOGY	15	Statistics	4
FOOD TECHNOLOGY	6	MICROBIOLOGY	5
HORTICULTURE :-		ZOOLOGY	10
Pomology	6	VETERINARY ANATOMY	2
Olericulture	6	VETERINARY BACTERIOLOGY	2
Landscaping & Floriculture	4	VETERINARY PARASITOLOGY	2
PLANT BREEDING	12	VETERINARY MEDICINE	1
PLANT PATHOLOGY	8	VETERINARY PHARMACOLOGY	2
SOIL SCIENCE (Soil Physics, Conservation, Survey, Fertility, Chemistry)	21	VETERINARY PATHOLOGY	2
AGRICULTURAL ENGINEERING		VETERINARY PHYSIOLOGY	2
(Soil & Water Management, Power and Machinery, Process Engineering)	15	VETERINARY SURGERY	2
CIVIL ENGINEERING (Water Resources Engineering)	3	VETERINARY GYNAECOLOGY AND OBSTETRICS	1
MECHANICAL ENGINEERING (Environmental and Solar Engineering)	3	VETERINARY HYGIENE	1
BOTANY	5	HOME SCIENCE (For girls only) :-	
CHEMISTRY BIOCHEMISTRY :-		FOODS & NUTRITION	5
Chemistry	10	HOME MANAGEMENT	5
Biochemistry	15	HOME SCIENCE EDUCATION/EXTENSION	5

RESERVATION : 20% of the seats (plus unfilled seats allocated to candidates belonging to Punjab and Chandigarh) are reserved for (a) nominees of the Government of India from foreign countries and (b) candidates not resident of Punjab and Chandigarh. Within 80% seats meant for the candidates who are resident of Punjab and Chandigarh, the seats shall be reserved for the following categories of candidates :

Inservice Candidates	10%	Women Candidates	5%
Backward Classes	2%	Children of PAU staff/erstwhile staff members	2%
Outstanding Sportsmen	2%		
Scheduled Castes/Tribes	20%		

Unfilled seats under any above category will be transferred to the general pool of Punjab and Chandigarh.

MINIMUM QUALIFICATIONS FOR ALL PROGRAMMES :

(1) For inservice candidates

Second Division in B.Sc./B.Sc. (Ag.)/B.V. Sc. & A.H./B.Sc. (Engg.)/B.Sc. (Home Sc.) with at least three years experience on the last date of the receipt of applications, of teaching/research/extension in the Department of Agriculture and Animal Husbandry of the Punjab State and Union Territory of Chandigarh and/or Punjab Agricultural University ;

OR

Second Division in B.Sc. (Ag.)/B.V.Sc. & A.H./B.Sc. (Engg.)/B.Sc. (Home Sc.) with similar experience in any Department of Punjab/Chandigarh.

(2) For other than inservice candidates (Open Quota)

(a) All programmes except M.Sc. (Agricultural Engineering, Civil Engineering, Mechanical Engineering and Agricultural Education) in order of preference :

- (i) Graduates of PAU or other Agricultural Universities with equivalent programme of work of the equivalent duration of period of training with a grade point average of 3.20 (4.00 basis) and above and 1st class Graduates with Honour's degree from any other University.
- (ii) Graduates of PAU or other Agricultural Universities with equivalent programme of work of the equivalent duration of period of training with grade point average of 2.70 (4.00 basis) and above, 2nd class Graduates with Honour's degree from any other University and 1st Division B.Sc. Pass or B.Sc. (Ag.)/B.V.Sc. & A.H./B.Sc. (Home Sc.) from any other University.
- (iii) B.Sc./B.Sc. (Ag.)/B.V.Sc. & A.H./B.Sc. (Home Sc.) from other Universities securing 59.00% aggregate marks or above.

(b) M.Sc. (Agricultural Engineering)

Admission to M.Sc. in Agricultural Engineering shall be made from candidates from open quota who have passed B.Sc. (Ag. Engg.)/B.Sc. (Civil Engg.)/B.Sc. (Mech. Engg.)/B.Sc. (Elect. Engg.) or an equivalent degree in any other branch of Engineering ; in the following order of preference :-

- (i) Candidates with grade point average of 3.20 (4.00 basis) and above and with 69.20% marks and above ;
- (ii) Candidates with grade point average between 3.00 and 3.20 (4.00 basis) ;
- (iii) Candidates with marks between 65% and 69.19% ;
- (iv) Candidates with grade point average between 2.74 and 3.00 (4.00 basis) ;
- (v) Candidates with 60% marks and above but below 65%.

Candidates whose grade point average is less than 2.74 (4.00 basis) or marks less than 60% will not be considered for admission.

(c) M.Sc. (Civil Engineering)

Admission to M.Sc. in Civil Engineering shall be made from candidates who have passed B.Sc. (Civil Engg.)/B.Sc. (Ag. Engg.) or an equivalent degree ; in the same order of preference as for M.Sc. (Agricultural Engineering).

(d) M.Sc. (Mechanical Engineering)

Admission to M.Sc. in Mechanical Engineering shall be made from candidates who have passed B.Sc. (Mech. Engg.)/B.Sc. (Ag. Engg.) or an equivalent degree ; in the same order of preference as for M.Sc. (Agricultural Engineering).

(e) M.Sc. (Agricultural Education)

Graduates of Punjab Agricultural University with a grade point average of 2.70 (4.00 basis) and above.

FELLOWSHIPS AND STIPENDS available on the basis of merit and on fulfilment of conditions prescribed.

PROSPECTUS AND APPLICATION FORM obtainable from the Registrar, Punjab Agricultural University, Ludhiana on payment of Rs. 1.50 per copy by cash or by sending a crossed Indian Postal Order(s) for Rs. 1.50 payable to the Comptroller, Punjab Agricultural University at the PAU Post Office, Ludhiana. The envelope, containing the request for the application form or the completed application form be marked 'ADMISSION TO M.Sc.'

LAST DATE FOR RECEIPT OF APPLICATIONS : Applications from inservice candidates (through proper channel) and others should reach the undersigned on or before 30th June 1972. A copy in advance from inservice candidates will not be considered.

INTERVIEWS : Interviews will be held on the following dates at 10.00 A.M. in the Committee Room, College of Agriculture, Ludhiana according to the first choice of the programme of the candidate concerned :-

First preference programme**Date of
Interview****First preference programme****Date of
Interview**

Agronomy, Soil Science, Horticulture, Animal Sciences, Extension Education, Food Technology and Agricultural Education.

10.7.72

Chemistry, Biochemistry, Botany, Zoology, Microbiology, Journalism and Statistics

12.7.72

Plant Breeding, Genetics, Entomology, Plant Pathology and Economics & Sociology

11.7.72

Engineering, Home Science and Veterinary programme

13.7.72

The candidates shall be considered for admission to their second and third choice of the programme in absentia on the basis of their performance in the interview held for the programme of their first preference. They will not be required to appear for interview on the date prescribed for their second/third choice of the programme. No separate interview letters will be issued. No T.A./D.A. will be paid by the University for the journey performed by the candidates to appear for interview.

NOTE : If results are not expected to be declared by the last date for the receipt of applications, the applications be submitted by due date and result communicated before the date of interview.

(H. S. AUJLA)

Registrar

Contd. from page 39

Scale of Pay

(I) Professor	Rs. 1100-50-1300-80-1600 (senior scale Rs. 1600-100-1800)
(II) Assistant Professor	Rs. 700-50-1250
(III) Research Associate	Rs. 700—Rs. 1600 (consolidated remuneration)

Candidates should have an excellent academic record and aptitude for developing courses not only in their field of specialisation which is relevant to areas mentioned above but also courses with inter-disciplinary content. In case of candidates of exceptional and proven ability there will be flexibility regarding area of specialisation and formal educational qualifications. Candidates should give an account of their academic and professional record, list of research publications, fields of specialisation etc. A candidate will be considered for any post commensurate with his qualifications, experience and contributions in the related field.

The posts of Professors/Asst. Professors carry the usual allowances, besides pay. Higher initial pay is admissible to deserving candidates of proven competency. The age of retirement is 60 years. Accommodation is provided in the Institute campus with 10% of the salary as the licence fee.

Candidates called for interview will be paid partial reimbursement of expenses, equivalent to the second class railway fare from the place of residence to Bombay and back by the shortest route.

Applications from persons in India should be made on the prescribed forms obtainable free of charge from the Registrar of the Institute by sending a self-addressed envelope of 25 cm x 10 cm size.

Applicants from abroad may apply in plain paper (three copies).

Completed applications should reach the Registrar, Indian Institute of Technology, P. O. IIT, Powai, Bombay-76 by 30th June 1972.

INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY

P. O. IIT, POWAI, BOMBAY-76.

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Faculty positions of Professors, Assistant Professors and Research Associates, in the various Departments of Engineering and Science, are to be filled up in order to strengthen and diversify the present academic activities. The Under Graduate and Post Graduate academic programmes are being revised and a number of research schemes with social relevance are being initiated. The Institute is currently engaged in the following areas in the various Departments.

1. Chemical Engineering :

(i) Automation in Chemical Industries (ii) Electro-chemical Technology (iii) Inorganic Process Industries (iv) Organic Process Industries (v) Technology of Cellulose (vi) Technology of Fuels (vii) Technology of Silicates and (viii) Unit Operations

2. Civil Engineering :

(i) Geology (ii) Hydraulic Engineering (iii) Soil Engineering and (iv) Structural Engineering

3. Electrical Engineering :

(i) Rotating Machines (ii) Power Systems Protection (iii) Control Systems (iv) Instrumentation (integrated circuits) (v) Solid State Microwave Devices and Integrated Circuits (vi) Microwave Engineering (vii) Communication Theory & Systems and (viii) Thin Film Technology.

4. Mechanical Engineering :

(i) Machine Tool and Metal cutting (ii) I. C. Engineering, (iii) Fluid Mechanics and Fluid Machinery (iv) Thermodynamics and Heat Transfer (v) Refrigeration and Air Conditioning and (vi) Metal Casting and Metal Forming.

5. Metallurgical Engineering :

(i) Physical Metallurgy and (ii) Ferrous and Nonferrous Process Metallurgy.

6. Department of Chemistry :

(i) Solid State Chemistry and Physics (ii) Crystal and Molecular Structure (iii) Chemical and Mossbauer Spectroscopy (iv) Electrochemistry (v) Thermodynamics (vi) Coordination Chemistry (vii) Analytical Chemistry (viii) Chemistry of Natural Products and (ix) Synthetic Organic Chemistry.

7. Department of Mathematics :

(i) Functional Analysis and Approximation Theory (ii) Complex Analysis (iii) Numerical Analysis (iv) Fluid Mechanics (v) Elasticity and (vi) Statistics

8. Department of Physics :

(i) Solid State Physics, Experimental and Theoretical (ii) Nuclear Physics, Experimental and Theoretical (iii) Atomic and Molecular Structure and Spectroscopy and (iv) X-ray Spectroscopy and Crystallography.

9. Inter Departmental Activities :

(i) Computer Science and Technology (ii) Control Engineering (iii) Environmental Engineering (iv) Furnance Technology (v) Medical Electronics (vi) Production Engineering and (vii) Systems Engineering.

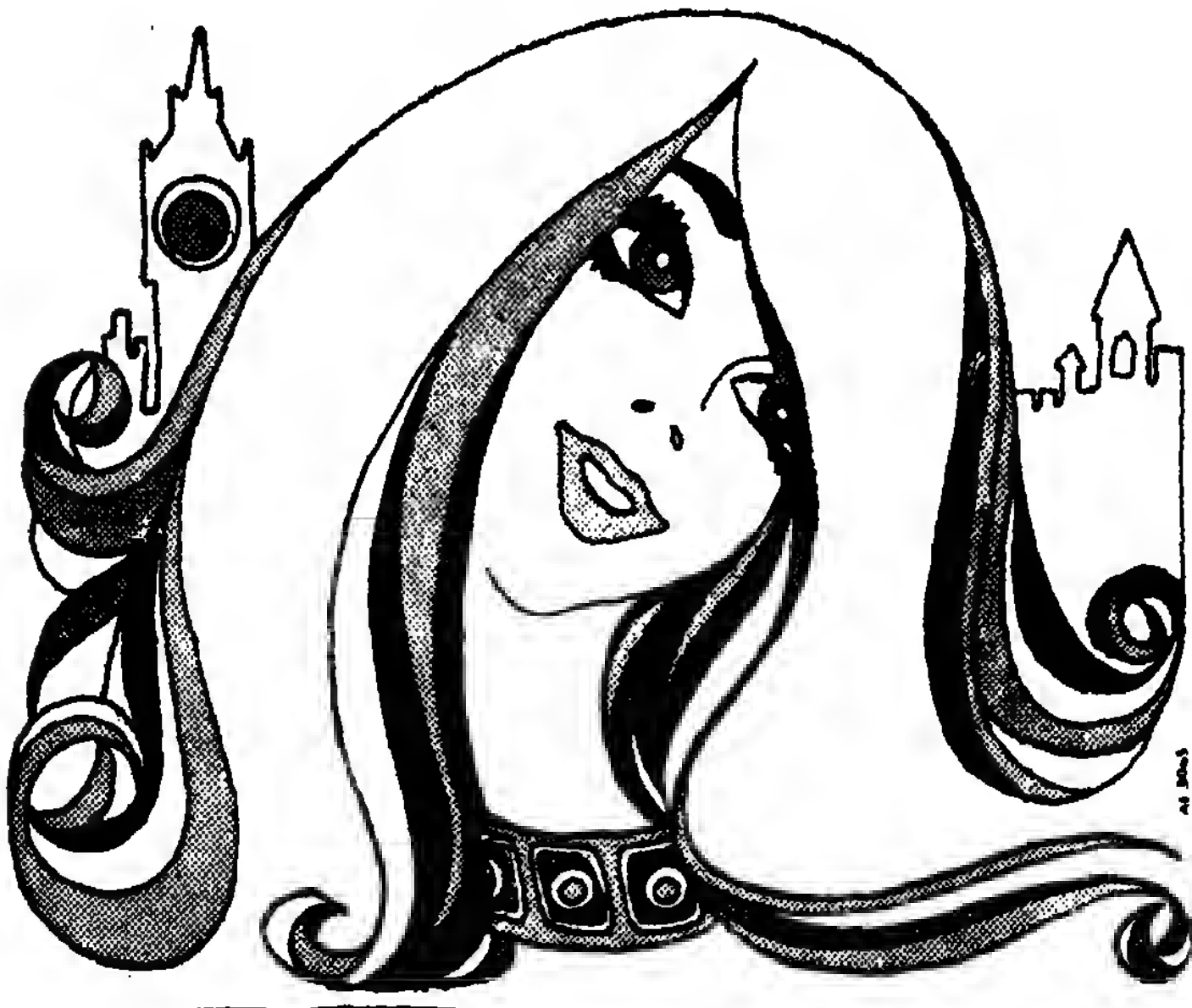
contd. on page 38

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UNIVERSITY NEWS

Admission slips M.A. course

NEW DELHI, June 21—Students seeking admission to M.A. courses in the Faculties of Sciences and Mathematics, sociology, human work and Arts to college, Shri Ram College, Ramjas College, Delhi University of Delhi and the

FOR STUDENTS ADMISSION TO PRE-MEDICAL COURSE

A list of students who have been admitted to the pre-medical course in the Faculty of Sciences, Delhi University, will be displayed on the notice board of the Faculty of Sciences at 10.30 a.m. on Monday.

The selected students who are required to complete the pre-medical course in the Faculty of Sciences, Delhi University, will be displayed on the notice board of the Faculty of Sciences at 10.30 a.m. on Monday.

Colleges admit students to the pre-medical course in the Faculty of Sciences, Delhi University, will be displayed on the notice board of the Faculty of Sciences at 10.30 a.m. on Monday.

Revised Rules For Admission In Medical Colleges

SHILLONG, May 31 The Government has revised the rules regulating the admission of students to the Medical Colleges in Assam.

According to these rules, a candidate should have obtained at least 45 per cent marks in the aggregate of Physics, Chemistry and Biology in the qualifying examination. In case of candidates belonging to the caste/scheduled castes, the percentage of marks has been fixed at 40 per cent.

minimum number of seats allocated to each college will be as follows:
Goalpara : Dhubri
Kokrajhar—3; Goalpara—3; Kamrup; Gauhati—3; Jorhat—3; Barpeta—4; Darrang; Tezpur—3; Lakhimpur; North Lakhimpur—2; Dhemaji—1; Dibrugarh; Dima Hasa—1.

“ Every summer, everybody in Delhi is agitated about two things: one is the monsoons—the other is college admission . . . ”

See the rest of it on pages 22 & 23

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and other benefits.

Applications may be made on plain paper giving full details of education and experience, to the Director, American Studies Research Centre, Hyderabad-7, A.P. so as to reach him not later than July 31, 1972. Those who are already in service should apply through proper channel.

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UNIVERSITY NEWS

A Chronicle of Higher Edn. & Research

* *The Cover Story (Page 22 & 23)*
AH, THE ADMISSION tells the story of 3000 dashed hopes!

Editorial (facing page)
proves that the recent Ordinance amending the Delhi University Act means something which it probably doesn't!

International News—Students to the fore (Page 4)

Thirty-second Conference of the Inter-University Sports Board—reported with precision and insight by Assistant Secretary G. S. Sivio (Page 6)

Campus News—a mixed bag of campus events reported from all over India by our correspondents (Page 7 to page 10)

Mr. Colin Mortimer of the British Council sets forth in his enviable idiom the many different uses for the tape recorder in language teaching (Page 15)

Jiwaji University Researchers go digging in Chambal ravines and find rare historical evidence, in place of dacoits (Page 11 to page 12)

Professor Bahuguna of Udaipur University proves to be a good Peeping Tom and surprises copying geniuses at their own game (Page 16 to page 18)

Summer Institute of Hostel Wardens reveals (Page 19) the inside story of their very personal thoughts

Books—A descriptive list of Mutiny Documents (Page 26)

Quotes? Sorry, news took them away!

Published every month by the Inter-University Board of India & Ceylon, Rouse Avenue, New Delhi-1.

Editor: W. D. Miranshah

DELHI UNIVERSITY

Where is it headed?



The now well-known new ordinance, which the President promulgated two weeks ago, will set Parkinson's first law in motion in the University of Delhi.

For quite some time now, the University felt—as did its Vice-Chancellor in some of his more recent public utterances—that to continue to handle some forty-eight colleges would become increasingly difficult. The idea of the addition of two new ones—now accepted presumably because of the new autonomy which will enable colleges to fend more or less for themselves—seemed impossible in spite of Napoleon's dictum! The idea of granting colleges—the professional ones to begin with—autonomy, with their own Councils representing students' view point by putting some of them in it to run their affairs, is a very welcome sign. Indeed, what has happened at Delhi should not be viewed in isolation but seen as part of an overall new pattern of university-college relationship which is surely, if somewhat imperceptibly, emerging. In a way, it is incidental to a realisation of the hopelessness of the situation in which education in India has landed itself. Signs of this new wind are quite visible—Osmania is almost halfway there. And to some extent, even the recent amendment of the Aligarh Muslim University Act, and the changes it has brought about in that institution as a consequence, signify an ever-enlarging national participation in the little understood concept of academic freedom.

Whether the colleges selected to be supervised by the Academic Council, as the Registrar of Delhi University mentioned in his statement to the Press, will be able to nurture the delicate new tie of academic fraternity will be determined largely by events yet to come. But one thing is certain: the new wind of decentralisation blowing across academic landscape is the very first sign of India's real freedom—the freedom of mind. It consists, in good part at least, in dismantling moribund structures invented centuries ago in deference entirely to a different set of circumstances. Their continuance any more because of an over-powering general inertia has proved in more cases than one virtually the last straw on the camel's back. Appreciation is therefore due, quite in generous proportion, to all those who saved the camel from collapsing!

—W.D.M

Student control over their education —an experimental programme at Ottawa University

Ottawa University students do not any more graduate. On the contrary, they negotiate "learning contracts" for "depth studies".

The students at Alabama University are one step still ahead. They interview faculty members who want to join as teachers. Their appointment is subject to students' approval.

These two examples indicate reform trends in undergraduate education in the United States and are designed to give the student more control over his own education. The underlying conviction behind this would seem to be that traditional undergraduate instruction has failed to produce what it was intended to produce, in the words of the President of Ottawa University, Mr. Peter H. Armacost: "Despite general education courses designed to provide significant knowledge in carefully selected areas of human inquiry, and to provide insight into the major issues of contemporary civilization, students graduating from these courses can seldom clearly identify the persistent unanswered questions about great themes in Western thought, much less discuss alternative ways of answering them."

Students at the former university "contract" for depth studies soon after their second year. In this contract, they are assisted by an Advisory Committee, consisting often of other students, people from outside the academic community and members of the faculty.

They devote the first two years to studying the "core", the focus of the curriculum being "Man as a problem to himself."

What is the core?

Mr. Keith Shumway, the Director of General Education at Ottawa, has summed it up thus:

"We sought certain common human themes, within the context of historical continuity and moral relevance. Each of the years deals with the same three themes: man in relation to himself, man in relation to his social order and man in relation to his natural environment."

In addition to Ottawa, at least 15 more colleges and universities—like Mankato State College in Minnesota—have some form of a "learning contract" for traditional major; they have been seen to prefer some form of interdisciplinary programme instead. In another, there is a noticeable trend towards growing student control over undergraduate education at Cornell College in Iowa. At this college, you can take three different roads to a Bachelor's degree. Instead of a traditional combination of specialization and general education, the student here can choose to receive a degree of Bachelor of special studies or of philosophy.

There are no specific requirements either for the first or the second; a student could carry out the entire programme by studying on his own.

What is the big idea of it all?

Mr. Armacost has said that the economic survival of that college was linked to the success of a new programme. He said: "Liberal Arts Colleges cannot and should not survive doing what they have been doing all along."

But he considered it still mere gambling because the innovative programme introduced by him is pitted against an entrenched tradition, older than a century and two score years. But his confidence lies in the fact that the programme is in line with the needs of the present student.

German Exchange Service Helps Indian Researchers go abroad

Indians proceeding to West Germany on Fellowships will leave for Germany for higher studies and research in the Federal Republic of Germany and in West Berlin. These scholars will join German universities and research institutes after completion of a four-month language course.

This is the first batch of fellowship holders leaving for Germany this year. These scholars have been selected out of fifteen fellowships offered each to the Ministry of Education & Social welfare and the University Grants Commission and ten to the Council of Scientific and Industrial Research by the German Academic Exchange Service.

In addition to this, 6 staff members of the Indian Institute of Technology, Madras, have also been granted fellowships of the German Academic Exchange Service under the Indo-German Agreement. These six fellowship holders will also leave on June 6, 1972.

Among the subjects on which the fellowship-holders will be doing research are: Engineering & Technology; Natural Sciences including Geology and Mathematics; Medicine; Agriculture and Forestry and Indology.

The fellowship-holders are staff-members or teachers who are working in universities, CSIR-laboratories, or recognised institutes of university standard, or hospitals.

Besides these fellowships, the German Academic Exchange Service has invited more than 30 Indian senior scientists and professors to short-term study-cum-information trips to the Federal Republic of Germany this year.

The German Academic Exchange Service serves to maintain and promote academic exchange in the fields of research, training and studies.

Autonomy for some Delhi colleges now... For Osmania colleges soon !

An Ordinance amending certain Sections of the Delhi University Act has been promulgated by the President. The amendments relate to giving of powers to the University to declare colleges conducting courses of study in the faculties of Medicine, Technology and Music and Fine Arts as autonomous colleges and to set up one or more College Councils. The Ordinance also gives powers to the Executive Council of the University to make new or additional Statutes or amend the existing Statutes with the approval of the Visitor of the University.

Soil Watching by PAU Students and USAID Experts

Post-graduate students of the Punjab Agricultural University accompanied by eminent Indian and foreign soil scientists have recently toured Rajasthan Haryana Punjab and Himachal Pradesh to examine the different types of soils from the arid to the wet. The foreign scientists included the visiting soils professors, Mr. F.W. Hilwig and Dr. J. Kinje from Netherlands. Dr. George F. Hall of Ohio State University, U.S.A.

and Mr. Kermet Larson, Soils Experts of USAID. Other scientists who joined the trip and discussions included soil experts from Himachal Pradesh University, Haryana Agricultural University, Rajasthan Soil Survey Organization and Central Soil Salinity Research Institute, Karnal. The extensive study tour which was the brain-child of Dr. N. S. Randhawa was organised by Dr. J. L. Sehgal of the Punjab Agricultural University.

What is a teacher ?

"A teacher is a continuing student and he has to offer new concepts of knowledge and development to all children entrusted to his care. It is one of the primary duties of a teacher to keep himself abreast of the vast changes that take place in the world knowledge. The teacher shall not keep his brain at rest lest it should get rusted. The minds of the teachers shall bring knowledge from the flowing crystal clear ravine rather than from a stagnant and stale stream."—Dr. D. Jaganatha Reddy Vice-Chancellor of the Sri Venkateswara University, in the course of his address to the Summer Institute in Mathematics for School Teachers at Tirupati on 22nd May.

The Osmania University Vice-Chancellor, Mr. N. Narotham Reddy is really abreast of the winds of change in education today. He has finalised plans to make certain selected colleges of the university autonomous as an experiment.

The university also seems to be set on making admission selected by subjecting post-graduate entrants to an Entrance Examination coming to get into M.A. and M.Sc., M.E. and M.Tech. B. J. and B. Lib Sc. The examination will begin on The 10th July and the papers will consist of areas from the syllabus of the qualifying examinations. However, the questions are expected to be so framed as to measure the intelligence, maturity and originality of the entrants. The move has been spearheaded by the Vice-Chancellor and was approved at a special session of the Academic Council on May 20th. The other step which the university has already taken is the decentralisation of postgraduate examination by authorising the departments to supervise them. The step is designed to foster better teacher—student contact and to make departmental level teachers conscious of a new responsibility. The postgraduate examination which should began on June 15 is being held in accordance with this arrangement.

Communication :

A Seminar

At Kuala Lumpur

Delegate to Communication teaching Seminar at Kuala Lumpur

Mr. S. Bashiruddin, Head, Department of Journalism, Osmania University presented a paper on "Mass Communication Education in India" at the South East Asian Regional Seminar on "Communication Teaching and Training" held at Kuala Lumpur from May 29 to June 4, 1972. He participated at the invitation of the Asian Mass Communication Research & Information Centre (AMIC), as a delegate cum correspondent from India to the Seminar which was sponsored by AMIC

Delegates from 67 universities attend 32nd IUSB meeting

Reported by G. S. Sivia

Prof. R. N. Dogra, Director, IIT, who chaired the 32nd Annual meeting of the Inter-University Sports Board, pointed out that there was still room for improvement, provided adequate funds could be made available for creating more facilities and tapping the vast reservoir of sports talent in universities. He emphasised the need for appraisal of various schemes operating in the field of sports and physical education, for evolving a pragmatic approach for laying down targets for the next plan period.

He was addressing the delegates to the IUSB's meeting on 27th & 28th May. The meeting inaugurated by Shri K. S. Ramaswami, Deputy Minister of Education and Social Welfare, was attended by delegates from 67 universities.

The Deputy Minister of Education and Social Welfare remarked that he was deeply impressed by the work the Inter-University Board had done during the preceding few years in implementing the programmes of NSO. He informed that the Ministry of Education and Social Welfare was watching the progress of the NSO scheme. The Ministry was happy to observe that the part of the programme entrusted to the Inter-University Board was making steady progress. He also pointed out that the Inter-University Board had heavy responsibilities for promotion of sports in the universities and, thereby, helping to project the image of the country higher in the arena of international sports. He was confident that the Board would prove equal to the task.

The Deputy Minister promised that the Government of India would see to it that the IUSB did not languish for funds. He announced the decision of the Government of India to meet expenditure in respect of kit, internal travel and sportsmen of universities visiting abroad to participate in international competitions.

He expressed concern on behalf of the Ministry of Education and Social Welfare about the dead-lock prevailing between the Inter-University Board and the Cricket Control Board over the management of the inter-university cricket tournament for the Vizzy Trophy. He hoped that some solution agreeable to both the Boards would be worked out and the tournament continued so that the university cricket talent, which was country's future hopes, would be nurtured properly.

Thanking the Deputy Minister for sparing his valuable time to be with the delegates, Dr. Amrik Singh, Secretary of the Board, assured him that the Board would work honestly and sincerely for the promotion of sports. He also emphasised the need for making more funds available to the Inter-University Board by the Ministry particularly in view of the fact that more and more university sportsmen had figured in the national teams which participated in the national and international competitions.

As a result of their deliberations on various issues, the following important decisions were taken. The Indian University's Contingent would participate in the world university games to be held

in Moscow from 25th July. The contingent would consist of athletics, volley-ball, tennis and gymnastic teams, accompanied by adequate number of officials. The athletic team will be selected on the basis of qualifying standards which will be circulated to the universities well in advance. The visit of these teams to Russia, however, is subject to clearance from the Ministry of Education.

The Board was deeply worried over the growing trends of indiscipline in the inter-university tournaments. To tackle the problem with thorough insight, a Committee was set up and its recommendations were considered by the Board. The Board was of the view that partly the problem was because of lack of adequate facilities in the universities and partly it was due to manouevring by some interested elements.

In view of this, it was decided that in future : (i) only those universities be enrolled as members of the Sports Board who had adequate facilities and had a unit of staff headed by a qualified Director of Physical Education in the university (ii) the allotment of tournaments should be made on the basis that the university concerned had adequate facilities to run it (iii) wherever thought necessary, observers be sent to report the facts about the cases of indiscipline and the interest taken by undesirable elements in creating indiscipline so that suitable remedial measures could be adopted to get rid of it.

Because of the difference of opinion between the Cricket Control Board and the Inter-University Board with regard to the management of the Vizzy Trophy, the tournament could not be run last year. The Sports Board felt the need to continue the tournament. The Chairman and the Secretary were authorised to negotiate with the Cricket Control Board and to find out a compromise formula so that the tournament could be continued.

AT P.A.U.

Seminar on Plant Breeding Inaugurated

The Vice-Chancellor, Dr. M. S. Randhawa's inaugural address read in his absence by Dr. K. Kirpal Singh, Dean of Post-graduate Studies, expressed the opinion that, with the recent advances in plant-breeding the surface of the earth will, in the near future, become overlaid with luxuriant crops, at once easy to raise and to gather. These crops will be resistant to pests and diseases, and climate and be readily useful in all parts.

The opinion was expressed to a summer institute on methods of plant-breeding sponsored by the Indian Council of Agricultural Research. This Institute, which is meant to provide intensive training to experienced teachers and researchers and the latest techniques of plant breeding, is the first of its kind in India and will last till July 8.

Dr. Randhawa said the concept of fertilizer-responsive and efficient plant type in wheat had acted as catalysts in bringing about a complete change in the outlook and agronomic methodology of the farming community. Now experiments were in progress to develop efficient plant types in maize, cotton and pulses.

Dr. Randhawa was of the view that the finding of opaque-2 and floury-2 genes had increased the nutritive quality of the maize protein considerably, and opened up an entirely new vista in plant breeding. Having achieved self-sufficiency in food-grains, the emphasis has now shifted to breeding for not only high protein but improved protein

in both cereals and pulses. The release wheat variety WG-357 and Rattan of maize by the Punjab Agricultural University are some of the achievements in this direction. Facilities for this kind of work are being developed here and Automatic Amino-Acid Analyser is being added in the quality testing laboratory which has been recently established. The increased facilities for screening of material for quality components will go a long way in developing high quality and productive varieties of various crops.

Dr. Khem Singh Gill, Head of the Department of Plant Breeding said that thirty scientists representing all the States of India, were attending the Institute. Both practical and theoretical aspects of plant breeding will be discussed during its 30-day duration.

SUMMER SCHOOL

IN RESEARCH

METHODOLOGY

AT OSMANIA

A four-week All-India summer school in research methodology of education was held at Osmania University in May/June, 1972. Sponsored by the National Council for Educational Research and Training and the Department of Psychology, Osmania University, the school was attended by about 30 delegates from various parts of the country.

Mr. N. Narotham Reddy, Vice-Chancellor of Osmania University, in his valedictory address on June 9, emphasised the need for study of psychology and asked the delegates to investigate the causes for the malaise in university education and find out remedies.

The course included research design, development of tools and educational psychology.

Prof. Gautham Mathur, Head, Department of Economics, Osmania University, presided over the valedictory function and

CAMPUS NEWS

Prof. E.G. Parameshwaran, Head, Department of Psychology and Course Director, read the welcome address.

Summer institute in Physics

A Summer School in Physics conducted by the Physics Department of Osmania University concluded on June 3. Nearly 25 lectures were delivered by experts and eminent scientists, including Dr. G. Siva Rama Sastry, Dr. T. Seshagiri Rao, Dr. N. Rajeshwar Rao, Dr. M. Suryanarayana and Dr. B. K. Gupta.

Prof. K. Venkata Ramiah, Head, Department of Physics, Osmania University, in his valedictory address, stressed the need for study of the phenomenon of "nuclear magnetic resonance" for its utility in solving a variety of problems in physics and Chemistry

The College of Education, Osmania University, conducted Pedagogical Orientation Course for junior and fresh college lecturers in the last week of May. Mr. M. V. Rajgopal, Education Secretary to the Government of Andhra Pradesh, inaugurated the course on May 22.

CAMPUS WOMEN'S CLUB

The Osmania University Campus Women's Club, first of its kind on the Campus, formed at the instance of Mrs. Sulochana Narotham Reddy, wife of the Vice-chancellor, staged a cultural fare for Campus children on June 9 at the Tagore Auditorium.

The cultural evening was the culmination of a six-week coaching in painting, music and drama imparted by the wives of faculty members. The Vice-Chancellor, Mr. N. Narotham Reddy, was the chief guest. About 150 sketches in water colours attempted by the children were on display.

"Give a system to your country!"

—Dr. D. J. Reddy of SVU

On June 1, was inaugurated, the Summer School in Political Science for College Teachers by the Vice-Chancellor of the university, Dr. D. J. Reddy, who called upon the participants to become realistic and give a "system" to the country.

He advised the assembled teachers to try to inculcate a sense of enquiry in their students, especially in the present-day technocratic society considered by most as one without values. He referred to the new values like mass participation in modern democratic processes incidental to decentralisation of power. He wanted them not to be static and advised them to keep in touch with current developments here and abroad.

The university Department of Political Science, it may be noted, has encouraged under the able direction of Dr K. Kamanathan, dialogue and discussion methods in classroom making relations closer between students and teachers. Dr. Kamalanathan outlined the efforts of the School and praised the helpful attitude of the USEFI. Dr. K. S. Nair, the Indian Scholars Officer of USEFI proposed a vote of thanks and appreciated the efforts of the Department of Political Science in having been able to secure participation in such important political scientists in the programme.

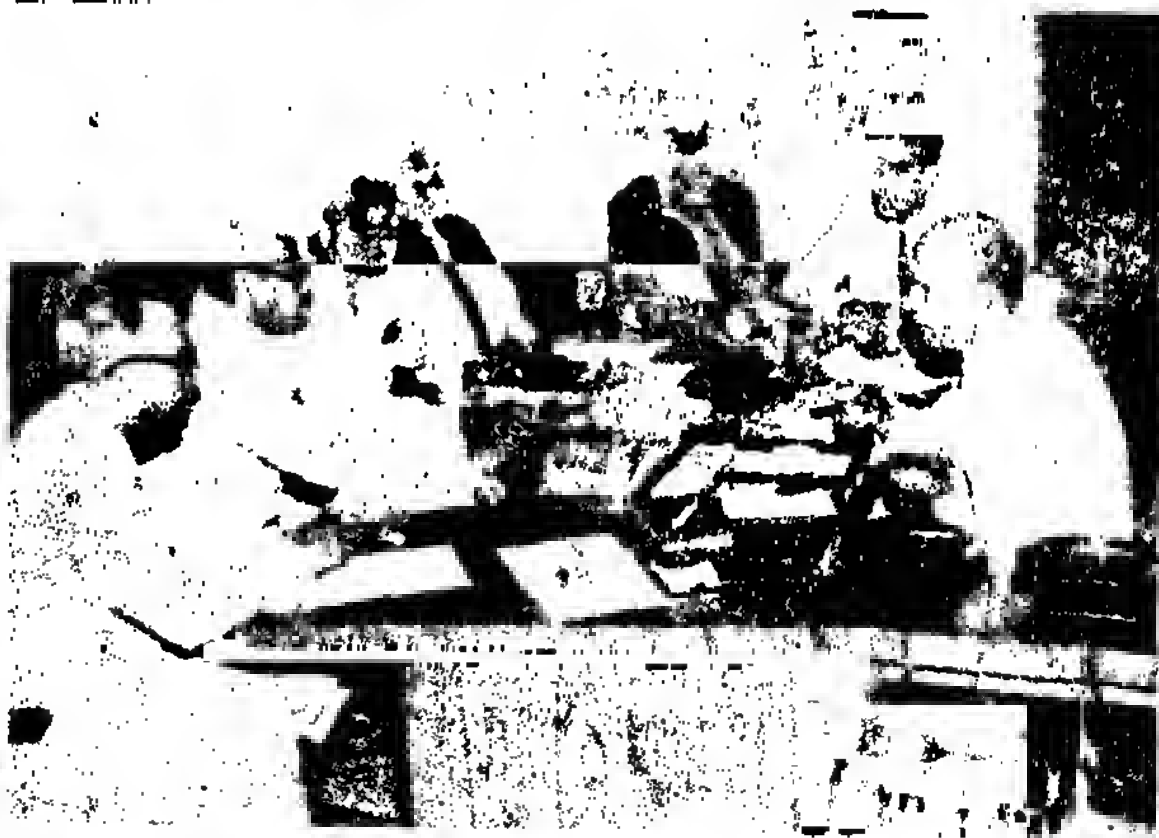
Professor M. V. Rama Sarma, Principal of the School, presided over the function, which was inaugurated with invocation by Shri N. H. Sitarama Sarma.

UGC TEAM VISITS SVU

Respecting insistent—and quite consistent—requests of the S. V. U. in strengthening its existing postgraduate Departments of Physics, Chemistry, Botany, Zoology, and Home Science in the University College, a UGC

**Will some Newton
lie under the fruit trees
of the PAU!**

The PAU has prepared the scheme for planting fruit trees at all tubewells in Punjab. The trees selected for this purpose are santra, sour lime, guava and ber. Mango may also have a chance, and the litchi, too. Peach, plum, malia, papaya may come next provided conditions are suitable. The PAU says that tubewells are good places to plant fruit trees. One could agree with it readily: for, who knows some Newton may sit under them and an apple might hit him squarely in the centre of his top, and this other apple might leave the theory of gravitation miles behind!



Members of the Inspection Commission of University Grants Commission with the Vice-Chancellor.

Inspection Team headed by its Additional Secretary, Dr. Sankaranarayana and comprising of Mr. R. Majumdar, Dr. Pal and other members came to visit laboratories and examined facilities presently available at the university college to justify the opening diversified courses in the different branches of science. The team had prolonged discussions with

the Vice Chancellor and with the Heads of Faculty.

The university has sought the Commission's aid in opening courses in Microbiology & Postgraduate Courses in Economics and Commerce—the demand for which has been felt because of the higher number of admissions this year.

Two maize varieties

from G. B. Pant University found promising

The All India Maize Workshop held recently at New Delhi has found two maize varieties developed by the G.B. Pant University of Agriculture and Technology, Pantnagar, very promising. The Workshop has consequently recommended pre-release multiplication of these two varieties.

One of the varieties, called Composites—TAD, has been successfully tested over the last three years. It has been found to give about 15 per cent consistently higher yield than the existing maize composites such as Kisan & Vijay, and is particularly suited to Indo-Gangetic plains.

The other is a hybrid—the Exp. Hybrid 3047—which has been under test in the All India Coordinated trials for the last two years. Apparently promising in Peninsular India, it gives about 15 percent higher yield than the thus far best—the hybrid called Deccan Hybrid.

J. N. K. V. V. ANNOUNCES POSTGRADUATE COURSES :

The university has introduced from this academic session postgraduate instruction at the Colleges of Agriculture and the College of Veterinary Science and Animal Husbandry at Dibrugarh. The one at Gwalior will introduce Agronomy and Horticulture; the Indore College will teach Soil Science and Agricultural Chemistry; and the Raipur College is also going to include Entomology.

P. A. U. Director Nominated to H. P. U. Board

Ludhiana, June 7, 1972
Dr. Sukhdev Singh, Director of the Punjab Agricultural University Ludhiana, has been nominated by the Chancellor of Himachal Pradesh University as a member of the Board of Management of H. P. U., Simla.

Two Summer Institutes

One in Soil Physics; Another in Analytical Techniques in Biochemistry

Pantnagar, June 5—The Summer Institute in Soil Physics was inaugurated to-day at the G. B. Pant University of Agriculture and Technology, Pantnagar. The Vice-Chancellor stressed the need for giving due attention to soil, which is the mainstay of agriculture.

Dr. Singh, while delivering the presidential address, added that the siltage problem in Bhakra and most other dams built at enormous cost is the result of lack of appreciation of the basic principles of soil physics. Neglect of soil conservation in the catchment areas of the dams has been resulting not only in the loss of valuable land through erosion but also in a massive deposit of silt. We now face quite an alarming situation—he urged an immediate team approach to this problem of great national importance. The soil scientists, the plant scientists and the irrigation engineers should all join hands together to meet this great challenge. He urged the participants to study the problem of soil physics in an overall national perspective.

Earlier, Dr. M.D. Thorne, an eminent American soil scientist presented a paper tracing the origin and development of soil physics. He said development of tensiometer to measure the tension of water has been one of the most important contri-

butions of soil physics to agriculture. There were many such examples he concluded.

Bin chemistry

The soil scientists and teachers in soil physics from various parts of the country are participating in this 34-day Institute.

The Summer Institute in modern Analytical Techniques of Biochemistry sponsored by the Council Indian of Agricultural Research was inaugurated this week at G. B. Pant University of Agriculture & Technology, Pantnagar.

Dr. D. P. Singh, the Vice-Chancellor of Pantnagar University, referred to the 'Brain drain'—migration of scientists of this country because they could not get good enough facilities for work. Dr. Singh emphasised that mere acquisition of equipment was not enough and that the available equipment must be maintained properly and put to good use. He further observed that the equipment, techniques and resources were important in their own place but that the man behind all these was even more important.

Dr. K. G. Gollakota, Director of the Summer Institute welcomed the participants. Scientists and teachers in Biochemistry from 12 states are participating in this 28 day Institute.

JNKVV

Thirty-Three

Minus one !

The M. P. Govt. is financially assisting the university in conducting research on wheat improvement at its research station, Powarkheda—one of the thirty three schemes.

The aim of this research includes evolving high yielding and disease—resistant varieties; 2) to evolve varieties suitable for dry farming conditions; 3) to find economy in irrigation and fertilizer requirements of the new wheat varieties; and 4) controlling insects pests.

Progress made so far :

PKD-4-a variety released recently by the JNKVV for unirrigated conditions—has outyielded all others in a recent All India Trials conducted under rainfed conditions. It is the additional advantage of possessing resistance to black and brown rusts with hard ample grain. This variety is excellent for moisture—stressed conditions. The other promising selections have been identified in single, double and triple dwarf varieties.

Placement of fertilizers 30kg N-15 kg, P_2O_5 below the seed has given good results under rainfed conditions.

Sowing is suggested in November with 10-125kg seed—ha and fertilizers, application of 12-15-N P_2O_5 . However, potash fertilizers is recommended when the soil test indicate low or medium status. Nitrogen is to be given in split doses with 1/2 at the time of dressing. This irrigation has been found optimum to be given at critical stages. Besides, wheat sown during November 11 to 27th was least at the stem borer. Aldrin dust 10% mixed with the seed at the rate of 25kg/ha has significantly controlled termites.

CHANGES

• Dr. M. S. Randhawa, Vice-Chancellor of the Punjab Agricultural University has been appointed a member of the Working Group on Agricultural Education and Training of the National Commission on Agriculture.

• University of Rajasthan

Shri L. P. Vaish has taken over as the Registrar from 8th June.

• Jadavpur University

Shri Arun Kumar Gupta, M. M. E. (Jadavpur University) A. M. E. E (India) took over as the Offg. Registrar from 1st June in place of Shri P. C. V. Mallik, M. A. (Cantab), who has been appointed a full-time member of the West Bengal State Planning Board

From PAU to HPU

Dr Sukhdev Singh, who is presently Director of Research at the PAU, has been nominated by the Chancellor of Himachal Pradesh University to be a member of its Board of Management.

GURU NANAK UNIVERSITY SENATE

APPROVES D. LIT REGS !

The last session of the present Academic Council of the university held at Amritsar on June 14 adopted the regulations for the degree of D. Litt/D.Sc. as well as the regulations for admission in the colleges of education. The council also permitted some of the affiliated colleges to introduce new courses from this academic session.

The council also approved new books for the various examinations.

The outlines of tests, syllabi and courses of reading and the regulations concerning Guru Granth Acharya examination, 73 were also approved.

The Vice-Chancellor took the opportunity of praising members of the Council for their valuable contribution towards the improving of academic standard of the university, specially its co-operation in resolving difficult situations.

Guru Nanak University, Amritsar

Advertisement No. 25/72

Applications are invited for the post of Reader in Guru Nanak Studies Department in the pay scale of Rs. 700-50-1000/50-1250, on prescribed form obtainable from the Registrar, Guru Nanak University, Amritsar, by making a written request accompanied by a self-addressed stamped envelope of 23 x 10 cms, so as to reach this office by 25th July, 1972, alongwith postal order (s) for Rs. 7.50 drawn in favour of the Registrar, Guru Nanak University, payable at Khalsa College Post office, Amritsar.

Qualifications

- i) First or second class Master's degree of an Indian University or equivalent qualification of a foreign University in Philosophy or Comparative Religion.
- ii) Either the degree of Ph. D. or an equivalent research degree or published research work of a high standard preferably on any philosophical aspect of the Gurus or Bhagats, included in Sri Guru Granth Sahib.
- iii) About 5 years experience of teaching post-graduate classes and/or guiding research.
- iv) Proficiency in Sanskrit, Sikh Literature and at least one foreign language other than English will be an additional qualification.

Dominated by a hill-fort, Gwalior is a city of monuments and sculptures, its antiquity going back to the 6th century A.D. The inscription of the Huna ruler Mihirakula, found on the hill, ushers the city into the limelight of history. Thereafter, it is well known how it came under the successive occupation of the Pratiharas, Chandellas, Kachchapghatas and Tomars and later passed into the hands of the Mughals.

But the story of Gwalior prior to the 6th Century A.D. posed a challenge, alike the historian and the archaeologist. Thus the Department of Ancient Indian History, Culture and Archaeology Jiwaji University, conducted extensive explorations along the Bank of the River Morar, which resulted in the discovery of an ancient mound at JADERUA, close to the former

JIWAJI RESEARCHERS DISCOVER SOME RARE FINDS !

A Ueque! to Archaeological Dept. Excavations

Residency building on the northern fringe of the city. Measuring about four square furlongs and three metres in height, the mound is built over by the modern village, and only its western slopes, now under cultivation, are available for exploration. Accordingly, the University Department with some technical assistance from the Archaeological Survey of India, conducted an excava-

tion during April 1972, which yielded results of far-reaching significance: *Gwalior can now boast of its antiquity going back to the sixth century B.C.* The excavation has established the following cultural sequence, from the bottom upwards.

Period I (circa 6th to 5th century B.C.)

The earliest settlement is characterised by the use of a dis-



Brick Structure, c. 2nd cent B.C.

tinctive pottery which is black inside and black-and-red outside, the dominant types being dishes and bowls. Along with this pottery was found a grey ware, a few of the sherds recalling the fabric of the well-known Painted

Grey Ware. Due to the limited area excavated in these lower levels, no house-plans were obtained nor even many antiquities unearthed. However, mention may be made of a polished sandstone muller, a saddle-quern and

a few beads of terracotta and crystal.

Period II A (circa mid-4th to 2nd century B.C.)

After a very brief gap of time, the site was occupied once again. While the black-and-red ware

ceased, a new kind of pottery—black in colour and highly shining (known to archaeologists as the Northern Black Polished Ware)—made its appearance. With it was associated a red ware in which notable shapes included the rimless handi, miniature bowls and lota-shaped jars—all similar to those found in the corresponding levels at Hastinapura, Rupa, Ahichchhatra etc.

Among the antiquities, iron implements, comprising chisels, spear heads, arrow-heads, and a large sickle are noteworthy. The presence of a large quantity iron-slugs suggests iron-smelting and on-the-spot manufacture of the iron implements. A number of beads in terracotta, agate and carnelian were also discovered in this cultural horizon.

Of interest is the discovery of

a 16-metre long wall, running from north-east to south-west and having postholes at intervals of about 2 metres. In addition, a room has been exposed, with a drain passing through one of its walls. The construction of the walls follows the header-and-stretcher style, the bricks measuring 45 x 22.5 x 7.5 cm. The foundations of the walls were filled up with stone rubbles mixed with iron slugs. The find of tiles indicates the kind of roofing for the houses.

Period II B (circa 1st century B.C. to 2nd century A.D.)

This sub-period yielded rich finds in the form of coins and terracottas. In the lower levels were found square copper coins, bearing tree-in-railing and crescent-on-hill symbols, which are ascribable to the period between 1st century B.C. and 1st century A.D. From a very late pit came the Naga coins belonging to circa 2nd century A.D. The terracottas included two female figurines in the typical 'Sunga' style, one of which may be identified as that of Padma-hasta Lakshmi.

Period III (circa 9th to 10th century A.D.)

After Period II B the site was abandoned, only to be re-occupied about the 9th century A.D. The characteristic pottery types are the knife-edged bowl, spouted vessel and carinated handi. During this period the structures seem to have been primarily of stone-rubble.

The modern village

The discovery of a late Mughal coin from the surface suggests that the modern village came into existence in the early 19th century. Thus ends the story of Jaderua which represents the earliest settlement of Gwalior.



Terracotta figurine
c. 1st cent. B. C.

EXCAVATION AT JADERUA

University News SUBSCRIPTION RATES

One year	Rs. 9
Three years	Rs. 25
Five years	Rs. 40
Single copy	80 Paise

Historical Investigations—Some aspects of the work of The Association of Indological Studies

Milagres College, Kallianpur, S.K, is a new college and it has just completed five years since its inception. Even in its infancy it has shown remarkable progress both in the curricular and co-curricular activities.

One of the main features of the College is the establishment of a research bureau to promote historical investigations. The Association of Indological Studies, as it is known, was founded in 1970 with a view to conducting a systematic survey of the monuments of the Districts of South Kanara and North Kanara in particular and of the State of Mysore in general. It also seeks to promote the study of numismatics, ancient manuscripts and any other significant aspect of Indian Culture. It is most heartening to find that it is managed and organized by a well qualified Archaeologist of considerable repute, Dr. P. Gururaja Bhatt, who is the president of this Association. Dr. Bhatt is an historian of deep interest and his writings are spread over archaeology, numismatics, sociology iconography, art and architecture and education. The secretary of the Association, Dr. T. S. Rajagopal is a diploma holder in Epigraphy and happens to be an accomplished scholar and likewise the Joint secretary, Sri K. N. Kedlaya. The various members of the staff of the college who have banded together to associate themselves with the organization are persons of native interest in the study of Indian Culture. This body is now registered under the Registration Act and is solely dedicated to the cause of unravelling the rich past of our country.

The Association has already had splendid achievement to its credit. The examination of various monuments of the Kota area, the discovery of the 9th century of Kadandale inscription, the excavation of three 9th century Inscription stones at Udyaver, Udipi, the discovery of more than forty new inscriptions, the publication of a number of articles on

subjects of iconographic and architectural merit, the exploration of the Bhatkal and Katgal areas of the North Kanara District, the finding of, perhaps, Satavahana bricks at Yellampalli, Udipi Taluk are some of the impressive achievements of the Association. An Insight into Hoysala Temple Architecture is the first publication by the Association which happens to be the synopsis of a huge project undertaken by the President for intensive survey.

The discovery of the 8th century A. D. copper plate in the Kannada language from the Durga Parameshwari temple, Belmannu, Karkala Taluk, S. Kanara is the major discovery of Dr. Bhatt. This copper plate may be regarded as the earliest of its kind in Karuahaka.

It is remarkable that the Association should accomplish all this without any aid by the Government or by any other agency. On the 19th of December, 1971, an archaeological exhibition was organized which was much appreciated both by the public and the scholars. The Association is building an archaeological museum with concentration on epigraphy numismatics, and collection of ancient manuscripts. Already an impressive progress has been made in this regard.

In spite of all these achievements the Association seems to be seriously handicapped by lack of finance and its progress on lines stipulated in its aims and objectives is not possible without grants by Government. In these days of much importance being given to the study of Indian Culture, it is most befitting that associations like this are founded and financially aided by government and the public based on their merits. There is no doubt that under the guidance of Dr. Bhatt who is an indefatigable worker and profound scholar, the Association will have claims of the merit of excellence and be the focal point of historical researches.

Youth Hostels in Germany

"Quite rightly, wandering about has been described as the queen of all bodily exercises."

—Mahatma Gandhi

Wandering is a big thing for youth in Germany. Roaming the great forests, living close to Nature and travelling light are popular with the youth—and also youthful elders—who like to travel off the beaten track. For them there are nearly 660 youth hostels across the length and breadth of Germany, a large number of them in old castles which now ring to the voices, the music and the laughter of young people following the trail of their 'wanderlust'. In the midst of youth rebelliousness, disillusionment and

dope addiction elsewhere, it is interesting to note that in 1969 alone, nearly 8.6 million young people stayed overnight at youth hostels in Germany. A healthy sign to say the least!

Youthful adventurousness and romanticism are amply rewarded in youth hostel activity, for the idea behind them is to provide young people who trek across the wilds a place to stay the night. The originators of the youth hostel movement visualised the importance of rambling by youth, of leading boys and girls out of the confines of city life and to teach them to breathe more freely and broaden their horizons. This is confirmed by the words of the founder

Continued on Page 14

Andhra University

A Talk by Dr. S. Ramamurty

A gathering consisting mainly of students and research workers at Andhra University was addressed on 20th February 1972 by Dr. S. Ramamurty, Reader, Department of Nuclear Physics, Andhra University, Waltair. The talk lasted nearly two hours.

Pointing out that the audience consisted largely of young people who finished at least their undergraduate education, who were studying or doing research in the university and who were interested in understanding the modern world dominated, as it is, by science he urged the audience to read such magazines as *Science Reporter*, *Science Today*, *Science Journal*, *New Scientist* *Scientific American* and *American Scientist*, regularly and to study such works as S. Glasstone's "Source-book of Atomic Energy" and "Source-book of Space Sciences" and O. P. Thomson's "Inspiration of Science."

Dr. Ramamurty referred to the marvellous equipment used nowadays in experimental scientific research, citing, in this connection, the words of Philip Noel Baker in his book "Arens Race" and said that no less marvellous is the mathematics which we find used in research publications in physics and also other sciences e.g., economics. Dr. Ramamurty referred to the 200-Bev accelerator under construction in the U. S. A.

He gave the audience an account of the main outlines of what we know of the physical universe. This was a fairly detailed account which mentioned even some recent developments such as the SU3 symmetry and the lines of thought regarding the puzzling neutral—decays; and occupied the bulk of time. He made the point that discovery of the nuclear model of the atom, of the neutron and of quantum mechanics give us the basis for understanding ordinary—and nuclear—physical and chemical—properties

of substances; that elementary practice physics is a very far-reaching development even over nuclear physics; that, while science delves into the intimated structure of matter, science also enquires into the nature of the universe as a whole; and that, while there have been solid acquisitions to over knowledge, there is also much that is fluid or uncertain such as the origin of meteorites, the origin of cosmic radiation and the nature of catalysis to give but three examples. The audience found the facts of astronomy and the concepts of the special and the general theory of relativity particularly interesting.

He showed the audience a map of India's atomic energy installations and gave an account of India's nuclear and space development and of the inspiration of Bhabha, Nehru, Sarabhai and the Govt. of India. He mentioned food-irradiation, gave an account of what is known of the feasibility of breeder reactors and stated that the countries particularly able to contribute to the achievement of controlled fusion reactors, viz., USA and USSR, seemed to be lacking in a sense of urgency in the matter owing to their being abundantly well-served by non-nuclear sources of energy (consider how rapidly they developed nuclear weapons technology).

He pointed out that the approach e. g., in USA seemed to be that science gives knowledge which shows area for profitable investment of capital and referred to the awakening of the public opinion in the west to the potentialities of science since 1945. He called upon the audience to consider how the development of technology actually takes place and pointed to Bell Telephone Laboratories to illustrate the chain basic research—systems engineering—development of specific systems and facilities.

At the beginning of the talk, he told the audience that he was not a materialist himself.

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of the Youth Hostels Association, Richard Schirrmann, who wanted youth to "wander from nation to nation."

Schirrmann was a German school teacher who conceived the youth hostel idea in 1907 and worked hard to make it a reality. He found support from many people, specially the German youth movement known as the 'Wandervogel.' In 1912, the world's first youth hostel was opened at Burg Altena, a medieval castle, and by 1914 there were 350 youth hostels already. The idea had certainly caught on!

The youth hostels have no parallel as cheap places for resting and staying overnight. Simple food and comfort are provided for the young wanderers and a youth hostel warden looks after them like a friend.

Young people from all over the world visit Germany's youth hostels and there can be no better way than this of people from differing backgrounds getting to know each other. All that a person intending to stay at a youth hostel needs is a membership card of a youth hostel association. And with that card, a magic world of wandering, of a carefree life in the great outdoors, opens out.

In India, where the movement began in 1949, the Youth Hostels Association has overnight stay facilities in 100 towns and cities. It has underway a national project to further the aims of the youth hostel movement so that Indian youth, like his European counterpart, also has healthier outlets.

—Courtsey German News

The Tape-Recorder : Its Language Teaching—Potential in India

BY COLIN MORTIMER

It is no less regrettable for being perfectly natural that in being preoccupied with the contribution that spectacular and sophisticated electronic apparatus such as television and language laboratories might make, educationalists, administrators and planners have tended to overlook the possibilities of that comparatively simple and potentially very inexpensive device, the single tape-recorder, as a means of helping to cope with the problem of language teaching and language learning in India.

The tape-recorder merits serious consideration in this country not only because it can reproduce sounds relatively faithfully and almost infinitely, but also, and above all, because of its capacity for multiplication without dilution, and its potential for making excellence available to everyone, everywhere.

When tape-recorders are discussed by educationalists and language teachers, they tend to be thought of mainly as a means of improving pronunciation. In such discussions much is usually made of the claim that a student can improve his performance as a result of recording and listening to his own voice, and comparing his performance with that of the model. Though there is almost certainly some substance in this claim, the contention in this paper is that the use of the recording facility of a tape-recorder in such a way is of limited value and of exaggerated importance, and that, indeed, the key role of the tape-recorder in language teaching and learning in India would be not mainly as a means of teaching pronunciation in any direct sense, but *primarily as a means of presenting a variety of relevant listening comprehension materials*, of high motivational appeal, sometimes leading from, often accompanied by, and nearly always leading to written work and to reading.

Ironically, it may well be true that, used in this way, a tape-recorder often accomplishes more by way of improvement in pronunciation than is achieved when pronunciation improvement has been the primary aim.

It may be asked whether a tape-recorder has any particular advantages over a record-player. Apart from the fact that tapes are not subject to scratching in the way that discs are, the particularly important advantages of the tape-recorder are its rewind and pause facilities: it is possible to stop a tape fairly precisely, even in the middle of a word, if necessary, and then to rewind and replay even a tiny segment repeatedly. These facilities are of great importance both in the presentation of listening materials to a class and in using tapes privately.

From the point of view of *hardware*, however, any major plan for the exploitation of the single tape-recorder is bound to founder unless *indigenous production of a suitable (possibly play-back only) machine is undertaken on such a scale as to make it possible for manufacturers to bring the price down to a practical level, and to ensure availability of spares and maintenance facilities*. As long as tape-recorders are regarded only as luxury items of low priority for the reproduction of film music, the price of machines will preclude their ever being a serious practical possibility. But if the tape-recorder's value as an educational tool can be established in India, then its mass appeal as a luxury item might perhaps be turned to educational account. After all, the Open University in Britain has become a reality because practically every household possesses a television set. Television sets, having become increasingly *cheap because of the appeal of mass entertainment programmes* are now an available and practical channel for mass education.

Assuming that suitable play-back machines at a suitable price were to be a practical possibility in India, it would be essential to ensure also availability of *studio facilities* for recording master tapes of high quality and for copying these, without loss of quality, in sufficient quantities.

As far as *software* is concerned, no major plan could succeed unless indigenously produced blank tape were sufficiently, and cheaply available.

In phase with a programme for the production of hardware and blank tape there would have to be a carefully integrated programme for the production, from key locations, of appropriate materials, and for trying these out and adjusting them in the light of experience. Great care would be needed to ensure all round excellence in writing, recording, production and performance standards. The question of what model of pronunciation to use would need to be settled.

Bearing in mind the fact that most Indian classrooms are open-sided and tend to have a poor acoustic, both machines and materials would have to be tested for clarity of reproduction, and simple, cheap means of acoustic treatment would have to be devised to improve the ordinary classroom as a listening room.

Training would be a vital consideration. Both in-service and pre-service training of staff in the use of machines and materials would have to be carefully planned and phased, and thoroughly executed.

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Use of Unfair Means in Examinations : Common Public View

A CASE STUDY
BY PROF S. D. BAHUGUNA

The tendency to copy at University and Board Examinations has assumed gargantuan proportions. All the reports of unseemly incidents coming in from examination centres naturally force attention to the problem. This creates still other problems such as student indiscipline, apathy towards studies, cheating or deception, favouritism and loosening of inhibitions and restraints, consequently giving rise to psychological tension and many other allied matters. On a closer observation this appears to be the major evil. The academics and the academicians must seriously ponder over it and back away from the beaten path. The present examination system, responsible for so many unpleasant happenings in the country, must be thoroughly overhauled in order to cater to the new needs in the rapidly changing social and educational context.

I have conducted a field survey—fact finding study in unfair means in Examination Halls at Nathdwara and Udaipur—of 150 examinees at Nathdwara and 150 general public at Udaipur. The classification of the interviewees is as follows :—

Students	1. College level	90 students	
	2. Higher Secondary	60 "	— — —
			150
Public	1. Teachers	23 persons	
	2. Service class	30 "	
	3. Businessmen	60 "	
	4. Social workers	10 "	
	5. Others	20 "	— — —
			150

A questionnaire was handed over to them. They readily gave their minds and I have deduced some startling facts, knowingly disowned by the top education bureaucracy in the country. How students, and the general public, view the situation and try to handle it is explained here.

Causes of unfair means

1. 120 students were of the view that teachers insist on their giving attractive headlines or titles and correct statistical figures and in case of incorrect entries marks were deducted. They are not able to do it considering the all-round standards being what they were. Finding it impossible to memorise them, they jotted down points on a piece of paper for use in the examination. This view has been supported by 43 to 51 persons from the public. 105 students and 80 elders opined that this facilitates answering

and makes it 'weighty and effective'. 66 students based the examination preparation on 'hints' and 'guesses' and mugged up the answers for reproduction. However, 80 to 86 from the general public confirmed this view. Even then the memory deceives them at the last moment. Thus, there is no alternative to copying and the insistence on precise and correct reproduction appears misplaced. Creative and on-the-spot thinking becomes the first casualty.

2. Another interesting view is that copying is "a fine art and comes to them as a challenge". 40 students regarded copying as the best way to hoodwink the examiner. It is a challenge to his judgement. It is a challenge to the present educational methodology and contents. From among its various causes, an important one is the intense desire to impress friends, relatives and teachers with their 'brilliant' performance in lieu of the whole year's neglect of studies. Some believe that every one copies but is not caught. Either they are not found copying or are blinked away deliberately. Sometimes there have been examples of the invigilator-teacher clandestine collaboration. Fear is still another cause—the invigilator is afraid of catching them red-handed. Almost all (excluding the teachers and 110 students) the interviewees endorsed the last view.

3. Accepting the futility of the present educational system, the students do not regard copying as a real 'evil'. After all today parrot-like mugging up is a sheer waste of time. Evidently what one prepares just before the examination vanishes immediately after the examination is over. The energy used in memorising answers may help in getting them degrees but not the real knowledge for, they do not remember these answers afterwards. Such an unintelligent and mechanical way of taking studies is self-defeating and futile. Educationists must tackle the psychological stand that the contemporary student studies not for knowledge but for degrees. His aim is a degree for it helps in securing employment. Irony of the whole affair is that 81 per cent of the students and 65 percent of other persons expressed their gladness to get these degrees without studies and this was by far the best way for avoiding copying and wastage of time in useless studies as they are today. The whole educational system is degree-oriented.

4. 110 students and 82 others expressed the view that fair and foul methods are used just to get these degrees for employment. 37 and 120 students and other respectively were of the view that copying saves examinees time enough enabling them to take part in college politics and other such activities. Hints play havoc with them and they stake their

success or failure on them. After all examination is nothing more than a gamble. 140 students supported this view but only 34 from the public endorsed it. However, surprisingly enough, this hint-based gamble comes off. This has nothing to do with intelligence.

5. It is interesting to note that about 85 percent of the teachers interviewed are against the present system of examination and opt for the internal assessment. The idea behind this is to maintain the class discipline and impose teacher's authority in and outside the class-room and not the assessment of knowledge. 92 per cent of them voted in favour of "teacher is the best judge" for he is the real person knowing the intrinsic worth of his students. When they were told about students' reaction on this point, 60 percent agreed to their views. Politics and cases of indiscreet indignation on both sides have brought the present state of antipathy. But this will whisk us over to another more vital and fundamental problem of education system itself but it is out of the purview of this study.

6. Teachers have very divergent views on copying. Disapproval is on moral and ethical grounds, while approval is to set right the present ugly instrument of examination. More than 70% are afraid of the exposure of teachers themselves, in case the present system is replaced by any other system of assessment. Other methods of assessment demand thoroughness and up-to-date knowledge on the part of teachers; and both cannot depend on a 'chance' or probability.

Ways to prevent copying

Suggestions for stopping copying in the examination and doing away with this evil are very thought provoking and real eye-openers. In view of the present system of examination, 89 students believed that coping could not be avoided. No one in the public supported the view. The following are the ways of preventing copying in the examination hall, advocated by the interviewees:—

S. No	Suggestions	Students	Public	Variation in students view
1.	Aid of books in the exam. hall	122	108	+ 14
2.	Consultation of notes	95	68	+ 27
3.	Elimination of divisions	94	30	+ 64
4.	No women invigilators in men's colleges	78	110	— 32
5.	Moral education	78	83	— 5
6.	Bodily search before exam.	78	60	+ 18
7.	Change in exam. system	34	40	— 6
8.	Result on yearly work done	30	66	— 36
9.	Police arrangement	10	18	— 8
10.	Rustication on copying	4	70	— 66
11.	Magistratial powers to the Principals	2	109	— 107
12.	Teacher is the best judge	8	59	— 51
13.	Students not to be debarred for the next year	—	29	— 29

The above variations show the trend of attitude towards various suggestions put forward by students and the general public and deserve a serious consideration. The education planners in the country should try to understand the feelings of yesterday and today. The new generation is moving fast towards a different direction. It rejects the old values and dogmas. It is against authority and dominance. But it values the moral code and a respectable recognition of ethical behaviour. Strangely enough, the students are being ignored and many Mohamad Tuglaques in the country are planning their future without consulting them.

Broadly, two conclusions flow from the suggestions given by students—permission for open-book-examination and elimination of divisions, since

it is almost impossible to tell the first from the second. In absence of unimpeachable standards, merit often suffers. Copyists getting first division have always an edge over the honest seconds, who did not copy in the examination, even in the public service commissions. Thus every student would like to secure a first division by hook or by crook. The older generation is not very definite on this point.

Only a very tiny minority of students is in favour of assessment through yearly class work and surprisingly, almost none favoured the assessment by the subject teachers. Also, students do not trust their teachers and the teachers are vindictive but both reject the university examination pattern. This must be pondered over.

This survey is not thorough or comprehensive. However, it confirms the prevalent view that our examination system is defective. A lot of thought has been given to its organisation, usefulness and pattern; workshops and seminars have been organised to examine it from different angles, it has been touched upon in the context of student indiscipline, but a satisfying solution seems as remote as ever.

Some universities have begun internal assessment schemes and the award of division is calculated on the external and internal tests. But there was hiatus between the two and hence this pattern had to be re-examined. External and internal grading are now shown separately. Objective type tests have been devised and so the psychological assessment. This was thought correct, but unfortunately it too falls far short of the ideal. Sometimes it very much resembles a jig-saw-puzzle. The universities and boards have to modify it suitably.

No such scheme is likely to succeed and prove useful because the examination system is directly and inseparably related to the teaching method. The latter we have borrowed from the last legacy of the British Educational system. Even the Education Commission, in its detailed survey, has not touched this question lucidly in its analysis, confining itself only to the usefulness of the subject. It did try to impart a modicum of stability to the level of proficiency but the necessary research that went into its making has yet to come to light. The student is still without a solid base. Thus the examination system and our efforts are neither need-based nor knowledge-oriented but provides a good breeding ground to coping. Our efforts must be directed at awaken and channelising the natural curiosity of students; not making their brains a barren house of useless information, otherwise we cannot produce good citizens and persons of real ability.

Suggestions

From the analysis above, we conclude that students neither want to take degrees nor are for the continuation of the examination system as a gamble. Both the students and the general public want test of the 'knowledge' and 'understanding' of the students and power of expression and not their cramming prowess. Even today, in many examinations books are provided to the examinees such as in Accountancy tests and log-tables in science subjects and it should now be so done in other subjects too. The following suggestions may help us in this regard :—

1. A list of books from the prescribed syllabus be given and the students be allowed to carry one or two books in the examination hall.

2. Every question must indicate the frame-work and points within which and on which answers are sought.

3. The answers must not be readily available in the book. Students will have to sift and sort it out of many.

4. Traditional repetitive type of questions must be avoided and full assessment be made for answers.

5. The present division awarding method be replaced by 'A' and 'B' type.

6. The test must be scientific so as to make it objective at all levels.

7. The present assessment work should not be entrusted to busy persons so that it may not become a 'business'. Some system should be evolved under which no person could get more than 500 answer-books in total. Tabulators should not have assessment work.

8. Frequent changes of text-books be avoided. The University or Board must ask different scholars to contribute essays on the subject. An editorial board should knit them together. Once prescribed it should be continued over a long time. Timely revision will make the book up-to-date.

9. There should be pre-cadre training of the college or university teachers before allotting them actual teaching work. Certain age limit should also be fixed for the teachers joining colleges or university staff.

I am sure all this would go a long way in bringing about a radical change in the solution of the problems of indiscipline, teaching-learning tie-up, right use of time and building up of the individual as well as the nation. A timely start should be made before it becomes too late.

Contd. from Page 15

TAPE-RECORDER

All of this sounds daunting, and indeed it is daunting. But the tape-recorder is an educational tool of acknowledged value which will indubitably become increasingly available in the world increasingly cheaply. It would be said if India were to neglect to explore its possibilities as a means of helping to solve her problems of language teaching and language learning.

And needless to say, everything gained by way of audio-consciousness, and by way of orientation in the use of modern techniques while using a single tape-recorder, is perfectly compatible with, and can constructively anticipate the use of, a full language laboratory as, and if, language laboratories become available and are thought desirable.

(This paper was first read at the National Seminar on Mass Media in Education, Vigyan Bhawan, New Delhi, March 23—25, 1971) Courtesy : NCERT

Summer Institute in Hostel Administration

(held at St. John's Medical College, Bangalore)

(9-19 May, 1972)

There has been hardly any facility available to the hostel wardens of Indian colleges for training themselves in the requirements of their vocation. The Summer Institute in Hostel Administration, which was recently organised by the All India Association for Christian Higher Education was a step in the direction of fulfilling this long-felt need.

Objectives

Being a pioneering venture, the Institute had only modest and limited objectives :

1. enabling the hostel directors to reflect on the responsibilities, opportunities and challenges of their position ;
2. exchange of ideas and experience ;
3. learning from each other and from experts some of the requirements of their office and thus enabling them to play their role more effectively.

Steering Committee : Rev. T. A. Mathias (Director), Dr. P.S. Job, Sr. Digna, Dr. Mithra Augustine and Mr. Mani Jacob.

Attendance : 60 hostel wardens from various states of India participated in the Institute.

Academic Programme : The syllabus of the Course consisted of the following topics :

The State of Higher Education in India.
The Role of Hostels in College Education.
Changing Social Norms and Values.
Modern Indian Youth-A Socio-Psychological Analysis.
Influence of Peer Groups on Students.
Politicisation of the Students.
An analysis of Student Protest.
Interpersonal Relations in Hostel Life.
Academic, Moral and Spiritual Development of the Student.
Student Participation in Hostel Management.
Student Health.
Modernising the Management of Hostels.
Hostel Architecture.

The general procedures used were lectures or position papers, discussions in syndicates and in plenary sessions, and case studies.

The Resource Persons of the Institute were drawn from the colleges, universities and the Institutes of Management-Prof S. Shukla (Jamia Milia, New Delhi), Dr. W.T.V. Adisheshaiah, Dr. Harold Howes (University of Bangalore), Dr. S.P. Aiyar (University of Bombay), Dr. P.S. Job (Principal, Ewing Christian College, Allahabad), Dr. Prem Pasricha (U.S.E.F.I., New Delhi), Dr. M.A. Thangaraj (Principal, American College, Madurai), Dr. Kumariah (St. John's Medical College, Bangalore), Dr. S.H. Subramaniam (St. John's Medical College, Bangalore), Dr. Mary Mascarenhas (St. John's Medical College, Bangalore), Mr. Ben Soans (Academy of General Education, Manipal), Dr. Mithra Augustine (Madras Christian College), Dr. Laurie Baker (Architect), Fr. J. M. Stevens (Architect), Fr. J.M. Stevens (Architect), Dr. Besant Raj (Administrative Staff College of India, Hyderabad).

The University Grants Commission was represented at the Institute by Mr. M.P. Balakrishnan, who conducted a discussion session on UGC policies and programmes relating to the improvement of existing hostels and the construction of new ones.

One among the major recommendations of the Institute is that, "Workshops and Summer Institute in hostel administration be organized by the University Grants Commission at the University or zonal level". That the steady increase in the number of students residing in hostels makes such programmes a crucial necessity, needs no special mention.

The participants in the Institute made the following resolutions and recommendations :

Role of Hostels in Education :

It was recognised that hostels, beside contributing to the campus atmosphere suited for the academic pursuits of students, also help to break down sectarian barriers like communalism, parochialism, etc. and thus aid national integration and national development. The residential accommodation presently available in the country serves the needs of only a fraction (about 10 per cent) of the steadily enlarging student community. Hence colleges should explore possibilities of providing additional accommodation, particularly in view of the phenomenal rise in student enrolment. Living conditions in many of the existing hostels need urgent improvement.

Changing Social Norms and Values Modern Indian Youth

(i) Students today are affected by a variety of influences in the social and personal life. This leads to behavioural problems especially in the area of sex relations. We recommended that Family Life

and Sex education programmes be introduced in our colleges and hostels.

(ii) Wherever possible opportunities for the meeting of man and woman students may be provided. More co-educational institutions would help in providing such opportunities.

(iii) Recognizing the need for the guidance of youth especially in the area of motivating them for social service and to develop a concern in them for the less privileged sections of our society, we recommend that every effort should be made by our hostels to provide such opportunities for meaningful social service.

(iv) In order to develop the right attitudes to life and work it is suggested that we introduce in our hostels, at least in a small way "earn while you learn" schemes.

(v) We strongly recommend that there should be no separate hostels for communal and caste groups. All hostels should be open to all communities and groups and be as heterogeneous as possible.

(vi) We recommend that each hostel initiate at the beginning of the year an Orientation Programme for its new residents, with the help of some of their senior students. Where the college has such a programme, hostel students should be strongly urged to participate in it and the hostel should have a smaller programme to cover hostel needs and supplement the larger programme.

Inter-personal Relations

The Group was impressed with the value of harmonious inter-personal relations in hostel life and management. It is recommended that a course be organised for equipping the hostel Director with the essential insights into inter-personal relations.

Student Participation

The hostel, like the college, is a training ground and prepares the student for life. Student participation is one of the effective means by which this objective can be achieved. Student participation also creates a sense of belonging which is necessary for the smooth functioning of the hostel, but also, and more particularly, for enthusing the student and sustaining his interest in the life of the hostel.

We, hostel wardens, therefore resolve to foster and encourage the participation of students at the communication level (encourage them to assess and evaluate) and in the following areas worship, health and sanitation, cultural activities, mess management and in similar matters which are of particular interest to them. As students learn the process of decision-making, participation will extend to other areas such as framing the rules and maintaining discipline."

(ii) We realize that understanding others and learning from their experience help the student to grow. Understanding presupposes a relationship in depth and not a mere superficial friendship. As

better understanding among members in smaller groups is more likely to foster such friendship, we strongly recommend that each warden be assigned not more than fifty students or about eighty students when he has the assistance of another member of the Faculty.

Academic, Moral and Spiritual development

(i) The warden has the responsibility for the all round development (academic, moral and spiritual) of all the residents. However, he has a special responsibility for the spiritual nurture of the Christian students. Worship plays an important role in the spiritual life of a person. Common worship may be organised with student participation taking into consideration the local conditions.

(ii) The warden should also pay special attention to the academic progress of each student and should assist in organising coaching classes, provisions of books, etc. to students requiring such assistance.

(iii) The following may be included in the orientation programme of the hostel :

- (a) better and faster reading
- (b) good study habits
- (c) organization of time

(iv) The warden should work out ways and means to develop the various qualities desirable in human behaviour. For this the foremost factor is to live an exemplary life himself.

Cultural and Leisure time Activities

A variety of activities should be made available to the students as these would provide opportunities for social interaction with other individuals and groups and for leadership training.

Student Health

(i) Periodic guest lectures relating to various aspects of student health should be organised in the hostel. Regular visits by a doctor should be arranged in all hostels.

(ii) Hostels must try to provide balanced diet to the residents. Professional help in planning the menu may be sought from the Institutes of Nutritional Science.

(iii) Principals and wardens should take advantage of the UGC's students welfare schemes such as the setting up of health centres, gymnasias, etc.

(iv) Students with special complaints of ill health or who show unusual attitudes and behaviour should be given the assistance of counsellors as well as other specialists including psychiatrists where necessary.

Planning and Development of Hostels

(i) It is recommended that each warden should, on his return to the college, undertake a study of

his/her hostel needs in order to plan for their improvement. Concrete proposals in this regard may be sent to the UGC through the Principal, where sizable financial assistance is required.

(ii) In the planning of new hostels and the improvement of existing hostels, by the managements, the wardens too should be associated. Students too may be consulted.

Recommendations on Follow-up Action

(i) It is expected of each participant to share his/her experiences of this Summer Institute with his colleagues and with the Principal.

(ii) Initiative should be taken by the participants of this Institute to organise local or regional (involving all types of colleges in an area) seminars of hostel wardens (of 2 or 3 days' duration), to discuss common problems and to develop functional skills. AIACHE is requested to assist such seminars with funds and expert personnel.

(iii) The participants should continually strive to ensure that the administration machinery in their respective hostels is such as to equip him/her with tools for an effective supervision and guidance of all aspects of hostel management.

(iv) Each college should organise a series of consultations (questionnaires, interviews, group meetings, inter-group meetings, etc.) of the wardens with the parents, old-students, the Governing body, and the residents of the hostel to find out their respective expectations of the hostel. Based on the findings of the above-mentioned consultations, the Governing Body and the Wardens should define clearly the objectives and purposes of the hostel as well as the procedures to be adopted for fulfilling them.

(v) The results (success or failure) of all new ventures or projects initiated by the participants in their hostels may be conveyed to the AIACHE office so that the information is shared among other colleges through the 'Newsletter'.

(vi) The feasibility of developing and conducting a correspondence course in hostel administration should be explored by the AIACHE.

(vii) A continuing study of hostel needs and problems which would build up source materials for future training programmes for hostel directors may be undertaken by the AIACHE.

Training Programmes

The importance of the hostel in the college and university has been accepted. It is expected that the percentage of students residing in them will steadily increase. While physical facilities are being provided, the need for training the people who will administer them, needs special consideration.

We strongly recommend that Workshops and Summer Institutes be held to equip Hostel Directors to function efficiently in management and in other areas of human relationships.

A programme of intensive training in hostel administration may be evolved and supported by the UGC on a zonal basis. The possibility of this training leading to the award of a diploma or degree also deserves consideration.

Assisting the Warden

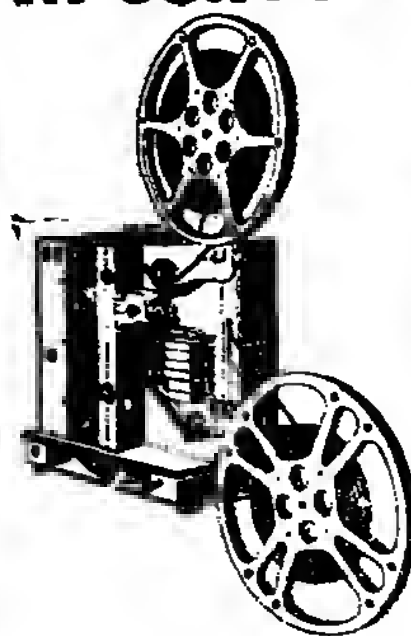
(i) We recommend that, taking into account the amount of time and labour demanded of the wardens' office, suitable reduction in their teaching load and other incentives may be granted to them. The college managements are requested to forward this request to the universities and the government.

(ii) It is recommended that the designation of the hostel administrator be changed from 'Hostel Warden' to 'Hostel Director', in view of the association of the former term generally with prison houses.

Resolutions of Thanks

The participants expressed their deep sense of gratitude to the All India Association of Christian Higher Education for organising this Institute and St. John's Medical College, Bangalore, for making available the premises and other facilities for the conduct of the Institute.

EDUCATION IN SCHOOLS AND COLLEGES



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IT is easier to find a bride than a college seat!

During those peaks of summer every year when the mercury seems to shoot out of the glass confines of the thermometer, two things regularly agitate the minds of Delhi's young and old alike. One is the coming of moussoons; the other of a seat in college.

Both are equally agonising like an unfulfilled expectation. Both build up a steady climax. Everywhere the question put is either: "Will it rain?" or "Will your son get admission?" And the answer is normally a long cynical look.

Those who are acquainted with the game consider it a prolonged wonder which has lost its immediacy. Everyone knew, even if the University had failed (as it did not) to produce its finely arrayed but least comforting set of statistics. According to its estimates, some 97,247 students will be looking for a berth—which it seems likely they will have to take another birth to get! To say that the number was only 2359 in 1962-63, would be as relevant as saying that the population consisted of Adam and Eve when the world began!

In the recent Higher Secondary examinations nearly 23500 students have secured better than 40% marks—the minimum water level prescribed for swimming in the University admission ponds. (This includes "compartment" candidates). Another number of 4500 has secured over 40% in other school-level examinations, taking the overall figure to 28000.

The University's capacity for admitting them extends, however, hardly beyond 20000 in its regular courses. The correspondence side may be able to tackle 3000 more. Thus, the 5000 who are fully qualified otherwise to be in college will be on the road.

Besides, there are two other aspects which will have to be kept in mind while attempting a worthwhile analysis of the admission problem. The first relates to the fact that, even though the result percentage was 57.7 per cent, nearly 2500 more have passed the examination this year. The other is that, whereas 31 percent of the third divisioners last year secured between 41 and 45 percent marks, 62 percent—or twice of last year's number—have passed this year.

Admission slips

M.A. course

NEW DELHI, June 11—The University of Delhi has announced that the Faculty of Sciences and Mathematics will admit students for the M.A. course in the following subjects: Physics, Chemistry, Biology, Botany, Zoology, and Mathematics. The examination will be held in July and August.

Revised Rules For Admission In Medical Colleges

SHILLONG, May 31 The Government have revised the rules regulating the admission of students to the Medical Colleges in Assam.

eligible for admission to the pre-medical course, according to these rules, a candidate should have obtained at least 45 percent marks in the aggregate in Physics, Chemistry, Biology in the quality examination. In case of caste/scheduled candidates, the percentage of marks has been fixed at 40.

minimum number of seats allocated to each subdivision will be as follows:

- Goalpara : Dibrugarh—3;
- Kokrajhar—3; Goalpara—3;
- Kamrup: Gauhati—6; Nalbari—3; Barpeta—4;
- Debrajpur: Tezpur—3; Margaonica—3;
- Lakhimpur: North Lakhimpur—3; Dhemaji—1;
- Dibrugarh: Dibrugarh—3.

AH, THE ADMISSION!

Both are linked to the problem of college admission, especially when it is beyond everybody's means and capacity to open 8 to 10 colleges every year. Nor, at the same time, the increase in enrolment at colleges could be thought of, although the University has instructed them now to admit ten per cent more students.

This would seem to be stretching even the saturation point. Many of the colleges are "bursting at the seams, with no physical facilities in most."

On the other hand, the University cannot also continue to stand still. In an obvious attempt to crack this problem of numbers, representatives of Education Ministry, the University Grants Commission and the Delhi University examined the role that correspondence courses, particularly in supplementing the number-absorbing capacity of the

university. The recommendations it made are still being implemented, if Indian Express it to be believed. The picture is disturbing:

"Since 1962, the correspondence school has not shown any improvement either in its curricula or its programme. The response of students to worksheets is only 8 percent, lectures are rarely revised, contact lectures are very few. The institutions should be given required staff and sufficient financial autonomy."

To say the least, it would seem inevitable that scope of correspondence education must be widened—a feeling also shared by the Kothari Commission. The inclusion of radio broadcasts, television lessons and more frequent personal contact programmes is indispensable. The idea of an Open University on the lines of the British model must also be experimented with, as suggested by the Education Minister, Mr.

S. Nurul Hassan, during the course of his recent convocation address at the Delhi University.

The problem is of planning ahead. Next year, the figure may be higher than 3000 of this year. Are we to go on opening college after college when both our resources to open them and our capacity to run them efficiently are extremely limited? Why be shy of doubling or even trebling the capacity of the correspondence School and admitting as many as want to get in? All that it requires is the printing of more copies of lessons and getting hold of a bigger number of evaluators. Besides, some innovation in correspondence subject-combination is urgently called for. It will meet a greater diversity of market demand, and attract a larger number. The recent inauguration of vocational subject combination is a great step forward, and there is no reason for the new School not to start its own correspondence courses as well.

The Dibrugarh University Library

By Ramesh Phookan

Starting from nothing the growth of the Dibrugarh University Library to the present status within a period of less than five years is a very promising record of organization and achievement. The Library started in a room of the D.H.S.K. Commerce Colleges, Dibrugarh in April, 1967. There was no basic collection to start with and the staff consisted of the Deputy Librarian, one office assistant and a peon. Immediately a basic collection with important reference books like Encyclopaedia Britannica, Oxford Dictionary etc. was built up and by July, 12 1967 the Library had 4406 volumes in stock.

Book Stock

It started growing at rapid strides : 15,519 on July 15, 1968 ; 20,553 on March 31, 1969; 23,624 at the end of 1969 ; 32,127 on December 15, 1970 and 42,712 by the end of 1971. The book stock consists of text, reference and recommended readings on Anthropology, Assamese, Applied Geology, Chemistry, Economics, Education, English, History, Law, Mathematics, Petroleum Technology, Physics, Political Science, Sociology, besides books of general interest.

Journals And Back Volumes :

The number of periodicals currently received is 538. A large number of back volumes of important journals on different subjects was procured. This was made possible mainly due to an *ad-hoc* grant received from the University Grants Commission. The teachers and the Research Scholars in particular are much benefited by this valuable addition.

The Budget allotment for books and journals is as follows :

1967-68	—	Rs. 1,70,000.00
1968-69	—	Rs. 2,26,000.00
1969-70	—	Rs. 3,91,000.00
1970-71	—	Rs. 2,29,000.00
1971-72	—	Rs. 2,65,000.00

Funds

The University Grants Commission sanctioned the following special grants :

1969-70 } 1970-71 }	— .	Rs. 2,00,000.00
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4th. Plan Period — Rs. 20,000.00 for books on Education

4th. Plan Period — Rs. 40,000.00 for Law books

Study Centre

The University Library received the approval of the University Grants Commission to start a Section called STUDY CENTRE where a special collection of mainly text and recommended books in various subjects are kept. These books are not lent out of the Library. The amount of Rs. 20,000.00 sanctioned for the purpose is very inadequate to cover all the subjects taught in the University. The amount enabled the Library to have only a token collection in the subjects. The amount of Rs. 10,000.00 granted for furniture was spent in providing furniture.

Students' Home

The Library also started a separate collection of text and reference books under the STUDENTS' HOME Scheme proposed by the University Grants Commission. But the project is yet to be completed due to non-availability of funds for the purpose.

Gandhi Corner

During the Mahatma Gandhi Birthday Centenary Celebrations an attractive corner named GANDHI CORNER was started with some books on and by Gandhiji and Paintings depicting episodes of Gandhiji's life drawn by Shri Ghana Konwer. The Corner now holds a collection of nearly four hundred books with a bibliography compiled by the Deputy Librarian. The corner was opened by Shri M.M. Choudhary, the then Chief Minister of Assam.

Bezbaroa Chora

A similar corner named BEZBAROA CHORA (Bezbarua Corner) was started during Centenary Celebrations of the Late Lakshminath Bezbarua, the great litterateur of Assam. The corner holds books on and by Bezbaroa, a few personal belongings of Bezbarua and a beautiful painting done by him. The establishment of this corner was made possible by the efforts of Prof. Paragdhara Chaliha, the Lakshminath Bezbarua Professor of the University.

During the Padmanath Gohain Baruah centenary celebrations a portrait of Gohain Baruah was unveiled by Shri S.C. Kakoty, Editor, Assam Tribune.

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A valuable collection of Back volumes of Scholarly journals on Mathematics was donated to the Library by Dr. B.R. Seth, the Vice-Chancellor. The collection kept in the Reading Room provides important references to some readers.

Library Committee

The Library Committee constituted at the beginning was reconstituted by the Academic Council which was again re-constituted by the Academic Council. The Committee now consists of all the Heads of the teaching departments, student representatives and the Librarian. The Committee meets as and when necessary to discuss Library matters and recommend necessary steps for efficient and smooth management of the Library.

Training/ Seminars Etc.

Shri Ramesh Phookan, Deputy Librarian was nominated by the British Council as a British Council Burser in which capacity he visited United Kingdom and studied the workings of many big and important libraries in England and Scotland including the University Libraries of York, Leeds, Oxford, Cambridge, Glassgow, Straclyde, Salford and UMIST.

The Deputy Librarian and Assistant Librarian participated in many Seminars and conferences both within and outside the State.

To meet the shortage of trained personnel a scheme is in force since 1969-70 to depute one qualified person from the Library every year for undergoing B. Lib. Sc. course at the Gauhati University. In 1969-70 and 1970-71 Shri P.K. Gogoi (1969-70) and Shri B N. Saikia (1970-71) obtained the Degree with a Second and First Class respectively. Shri A K. Talukdar Assistant Librarian received an internship in the United States Information Service Library, Calcutta for two months.

The proper development and growth of the Library has been very badly hampered by the problems of space. The Library is now housed in one end of the old factory building which is not at all suitable for a Library. Inadequate shelving space, lack of borrowing and reading facilities, lack of display and counter services are all merged with this basic problem. Proper planning and organization is never possible without a permanent Library building. In spite of these difficulties the Library has been able to provide 108 reading seats including locker facilities to the Research Scholars. An extension of the Reading Room helped reach this figure.

All the teachers of the University, students enrolled in the classes conducted by the University, resident and non-resident Research Scholars use the Library regularly. There are now twenty eight resident and three non-resident Research Scholars working in and using the library resources. The teachers are allowed to borrow twenty books while the Research Scholars and students are allowed to borrow six and three books respectively at a time. Besides the above, teachers and students of other colleges frequently come to the Library for reading and consultation. They are not given the borrowing facilities.

Inter-Library- Loan

As co-members of the Indian Library Association and India Association of Special Libraries and Information Centre the Library enjoys the Inter-Library-Loan facilities from other important University, College, Public and National Libraries. Many readers have been offered this service. The District Civil Administration has also been benefited by this service.

Institutional Membership

The Library is an Institutional Member of the Indian Library Association and Indian Association of Special Libraries and Information Services with the Deputy Librarian as Representative. The Library Committee has recommended Institutional Membership of two more learned bodies.

Microfilm

A remarkable achievement of this infant Library is the opening of the Microfilm Reading Section. With much difficulty and through the good offices of the Defence Ministry a Microfilm Reader has been purchased for the Library. A few Microfilm reels and stripes have been procured.

Staff

Another impediment to the proper growth of the Library is the most inadequate staffing particularly of technical personnel. The Library needs more trained Catalogues and Classifiers to deal with the big backlog and incoming books. Non-availability of suitable persons at the beginning and consequent delay in filling up vacancies have contributed greatly to incomplete processing of the books.

The Dibrugarh University Library

By Ramesh Phookan

Starting from nothing the growth of the Dibrugarh University Library to the present status within a period of less than five years is a very promising record of organization and achievement. The Library started in a room of the D.H.S.K. Commerce Colleges, Dibrugarh in April, 1967. There was no basic collection to start with and the staff consisted of the Deputy Librarian, one office assistant and a peon. Immediately a basic collection with important reference books like Encyclopaedia Britannica, Oxford Dictionary etc. was built up and by July, 12 1967 the Library had 4406 volumes in stock.

Book Stock

It started growing at rapid strides : 15,519 on July 15, 1968 ; 20,553 on March 31, 1969; 23,624 at the end of 1969 ; 32,127 on December 15, 1970 and 42,712 by the end of 1971. The book stock consists of text, reference and recommended readings on Anthropology, Assamese, Applied Geology, Chemistry, Economics, Education, English, History, Law, Mathematics, Petroleum Technology, Physics, Political Science, Sociology, besides books of general interest.

Journals And Back Volumes :

The number of periodicals currently received is 538. A large number of back volumes of important journals on different subjects was procured. This was made possible mainly due to an *ad-hoc* grant received from the University Grants Commission. The teachers and the Research Scholars in particular are much benefited by this valuable addition.

The Budget allotment for books and journals is as follows :

1967-68	—	Rs. 1,70,000.00
1968-69	—	Rs. 2,26,000.00
1969-70	—	Rs. 3,91,000.00
1970-71	—	Rs. 2,29,000.00
1971-72	—	Rs. 2,65,000.00

Funds

The University Grants Commission sanctioned the following special grants :

1969-70 } 1970-71 }	—	Rs. 2,00,000.00
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4th. Plan Period — Rs. 20,000.00 for books on Education

4th. Plan Period — Rs. 40,000.00 for Law books

Study Centre

The University Library received the approval of the University Grants Commission to start a Section called STUDY CENTRE where a special collection of mainly text and recommended books in various subjects are kept. These books are not lent out of the Library. The amount of Rs. 20,000.00 sanctioned for the purpose is very inadequate to cover all the subjects taught in the University. The amount enabled the Library to have only a token collection in the subjects. The amount of Rs. 10,000.00 granted for furniture was spent in providing furniture.

Students' Home

The Library also started a separate collection of text and reference books under the STUDENTS' HOME Scheme proposed by the University Grants Commission. But the project is yet to be completed due to non-availability of funds for the purpose.

Gandhi Corner

During the Mahatma Gandhi Birthday Centenary Celebrations an attractive corner named GANDHI CORNER was started with some books on and by Gandhiji and Paintings depicting episodes of Gandhiji's life drawn by Shri Ghana Konwer. The Corner now holds a collection of nearly four hundred books with a bibliography compiled by the Deputy Librarian. The corner was opened by Shri M.M. Choudhary, the then Chief Minister of Assam.

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arrangement impossible and create difficulties to readers in tracing out books. Inability to have proper shelf arrangement, checking and vigilance has also caused the readers to suffer at the hands of a few antisocial bad elements. The cooperation of the student can do a lot in checking and preventing these bad elements from doing more mischief.

Library House

The Library opens from 9 A.M. to 8 P.M. on weekdays from Monday to Saturday. Lack of transport facilities from the University in the evening have been a problem for the staff working in the evening hours.

Donation

Donation of books have been gratefully received from the United States Information Service, the British Council, the American Studies Research Centre and other. The United States information Service has also lent out a good number of books on long term loan.

The Librarian and his staff convey their sincere feeling of appreciation and thanks to the Vice-Chancellor and other officers and employees of the University, the teachers and students of the University and others for the constructive suggestions, valuable assistance and cooperation given to improve our services to the readers.

During this span of five years we have been honoured by visits of many distinguished visitors including the Chancellor Shri B.K. Nehru, the outgoing Chief Minister Shri M.M. Choudhary; Shri R.C. Baruah, Minister, Shri S.C. Rajkhawa, Vice-Chancellor, Gauhati University; Dr. S.R. Baruah, Ex-Vice-Chancellor, Assam Agricultural University; Dr. Pandey, Head of the Social Science Deptt. I.I.T. Delhi; Miss. R. Majumder, Regional Librarian, British Council and many other. To them all we are thankful for the words of appreciation and encouragements.

BOOKS

Descriptive List of Mutiny Papers

The National Archives of India has recently brought out the third volume in the series entitled "Descriptive List of Mutiny Papers in the National Archives of India, Bhopal".

The volume embodies the Persian correspondence of Nawwab Sikandar Begam, ruler of the erstwhile Bhopal State, and her various officials from July 18, 1857 to August 17, 1861. It deals among other things with the mutinous activities of the Bhopal Contingent and the subsequent disturbances at Sehore and Berasia, open defection of disgruntled jagirdars of the State and internal dissensions in the ruling family.

The volume gives also useful information on how the surging flames of the "Mutiny" had rapidly enveloped most of the territories in Central India, especially the Malwa region, and how Nawwab Sikandar Begam handled the alarming situation in her State. Some of the documents listed in the volume present an account of the trials and tribulations of the British during the great uprising, together with the strategy they adopted to stem the tide of revolt and re-establish their hold over the country.

As elsewhere, the greased cartridge and bone-dust played their part in arousing the spirit of revolt among the sepoys of the Bhopal Contingent, which had

been raised at Sehore under the Anglo-Bhopal Treaty of March 8, 1818, and put under the direct command of the British. Some of the sepoys got so intensely charged with rebellious fervour that they started proclaiming "The People owe their existence to God, the country belongs to the King, and the order lies with the soldier". They gave vent to their fury by reducing to ashes the British sergeant-major's bungalow at Sehore and plundering other residences in the Cantonment. Subsequently, on the morning of 15 Zulhijja 1273 A. H. (August 6, 1857), they planted the flags known as Nishan-i-Muhammadi and Nishan-i-Mahaviri to manifest their rebellious intentions. None the less the revolt remained far from open, as Nawwab Sikandar Begam with her usual tact and shrewdness, managed to pacify the rebellious elements and that too without impairing her relations with the East India Company whose help she needed most for the safety of her throne and survival of her House.

Edited by Dr. S. N. Prasad, Director of Archives, the volume contains, besides the text, an informative introduction. Priced at Rs. 10.50 per copy, it is available with the Manager of Publications, Government of India, Civil Lines, Delhi-6.

Applications are invited for the following posts :

(1) Professors : (A) Economics, Geography, History, Philosophy, Political Science, Botany.

Scale of Pay : Rs. 1100-50-1300-60-1660.

Qualification : (1) Essential : (a) A first or high second class Master's Degree of an Indian University or equivalent qualification of a foreign University in the subject concerned (b) Either a research degree of a Doctorate standard or published work of a high standard (c) Teaching experience at a University or college of about 10 years with at least five years of post-graduate work and experience of guiding research.

Professors : (B) Civil Engineering, Structural Engineering and Mechanical Engineering.

Scale of pay : Rs. 1100-50-1300-60-1600.

Qualification : (1) Essential : (a) Post-graduate in first or high second class in Civil (for the post of Civil & Structural Mechanical Engineering of an Indian University or an equivalent qualification of a foreign University (b) Teaching experience of five years in an Engineering College of degree standard and practical or research experience for minimum period of two years. SPECIALISATION Civil Soil Engineering or Hydraulic Engineering ; Structural Engineering or Highway Engineering ; Mechanical : I. C. Gas Turbine or Industrial Engineering and Operational Research.

(2) Readers : (A) Economics, Philosophy, Political Science, Commerce, Botany, Chemistry, Physics, Zoology.

Scale of Pay : Rs. 700-50-1250.

Qualification : (1) Essential : (a) A first or high second class Master's Degree of an Indian University or equivalent qualification of a foreign University in the subject concerned (b) A research Degree of a Doctorate standard or some published work of high standard (c) Experience of teaching post-graduate classes for at least five years.

Desirable for Zoology : Specialisation in any of the following branches : Parasitology, Animal Physiology, Animal Ecology, Entomology, Toxicology and Linnology.

Readers in Law (B) Scale of Pay : Rs. 700-50-1250:

Qualifications : (1) Essential : (a) A first or Second Class Master's degree in Law or first or second class degree in Law with a post-graduate degree in Humanities or Social Sciences (b) Experience of teaching post-graduate and/or degree classes for five years or atleast five years practice at bar.

(2) Desirable : Specialisation in Jurisprudence, or International Law, or Labour Law, or Administrative Law, or Criminology ; or constitutional Law or Family Law, or Comparative Law.

II. Lecturers : (A) Economics, Hindi, History, Political Science, Sanskrit, Sociology, Economics Fine Arts, Commerce, Botany, Zoology, Geography, Law.

Scale of Pay : Rs. 400-40-800-50-950.

Qualification : (1) Essential : A first class Master's Degree in the subject concerned or second class Master's Degree with three years experience of teaching degree classes. For Commerce: A first Class Master's degree in Commerce or Business Administration or Second Class Master's Degree with three years experience of teaching degree classes. For Law : A first or Second Class Master Degree in Law or first or high Second Class Degree in Law with three years teaching or three years practice at bar.

Desirable : For Zoology : Persons with a Master's Degree in any of the Life Sciences (Microbiology, Biochemistry, Molecular-biology) may also be considered.

III. Lecturers in Music : 2 posts (Instrumental and Vocal)

Scale of Pay Rs. 400-40-800 50-950.

Qualification : Essential : (i) Sangeet Praveen of Madhav Music College, Gwalior (ii) Sangeet Nipuna of Bhakhande Sangeet Vidyapeeth, Lucknow or (iii) M.A. in Music of a recognised University or (iv) A first class degree of Sangeet Visharad of Bhakhande Sangeet Vidyapeeth, Lucknow or (v) A first class degree of Sangeet Prabhakar of Rajasthan Kala Sansthan, Jaipur or (vi) A first class Degree of Sangeet Ratan of Madhya Bharat Departmental Examination Gwalior or (vii) Second class degree of Sangeet Visharad, Sangeet Ratan or Sangeet Prabhakar as mentioned above plus B.A. degree with Music from a Statutory Indian University or (viii) Sangeet pravin Examination of Prayag Sangeet Samiti, Allahabad or (ix) Sangeet Bhaskar Examination of Pracheen Kala Kendra, Chandigarh or (x) Alakar Examination of the Gandharva Mahavidyalaya, Bombay.

IV. Lecturer in Architecture :

Scale of Pay : Rs. 400-40-800-50-950

Qualification : (i) Essential : (a) A first or High Second Class Bachelor's degree of an Indian University or equivalent qualification of a foreign University in the subject concerned. (b) Experience of teaching or practical work for two years.

Desirable: Post-graduate Degree and research experience. Professional experience as an Architect.

V. Research Assistant : History, Zoology Commerce, Hindi.

Scale of Pay : Rs. 300-25-350.

Qualification : (1) Essential : A first or high second class Master's degree in the subject concerned with proved capacity and aptitude for research work. Preference will be given to those candidates who are actively pursuing research and have experience of handling research data. (ii) Desirable : For Hindi : Experience in Research work on Rajasthan Languages and Literature or Specilization in Textual Criticism, or

some experience of editing and publication work. Preference will be given to candidate who has aptitude for field work. for History : A good knowledge of History and Culture of Rajasthan and Rajasthani Scripts; Background of Sanskrit. For Zoology (i) At least a second class M.Sc. in Zoology (ii) Aptitude for research work. Desirable : Experience of research work.

Section Officer :

Scale of Pay : Rs. 275-20-375-25-650

Qualification : (i) Essential : At least a graduate having at least ten years experience of office work or Matriculate with 15 years experience as Head Clerk in a Government office or ten years experience in University or Board of Education. Desirable : (a) Experience of editryial work in a publishing house or press involved in printing/publication of journals, magazines etc. (b) Diploma in journalism from a recognised institution (c) Knowledge of R.S.R. and G. F. & A. R. (d) Knowledge of Typing and shorthand.

Assistants :

Scale of Pay Rs. 200-15-350-15-450.

Qualification: (i) Essential: Graduate with at least five years experience of office work in University/Education Board/Government Office or Commercial Firm of repute. Desirable : Candidates possessing experience of work in meetings or academic work or examination work or development work in a University will be preferred.

Stenographer :

Scale of Pay Rs. 170-10-210-15-390

Qualification: Higher Secondary having shorthand and typing speed of 100 and 40 words respectively in English and 80 and 30 words in Hindi. U. D. C. :

Scale of Pay : Rs. 150-5-190 10-210-15-330.

Qualification : (i) Essential: Graduate with at least three years of office experience in Government, University or Board of Education. Desirable : Familiarity with examination, academic admission work, knowledge of English and Hindi typing.

Glass Blower :

Scale of Pay : Rs. 150-8-190- 10-10-10-330.

Qualification: (1) Essential: Diploma in Glass Blowing with experience of glass blowing in University Laboratory or Institute or firm of repute. Candidates may be asked to give a demonstration in glass blowing work at the time of interview.

Qualifications as mentioned above may be relaxed by the Syndicate on the recommendation of the Selection Committee in cases of candidates who are otherwise found suitable. Higher starting salary is possible to exceptionally qualified candidate. The post carries allowances as may be admissible under the University rules from time to time. Number of posts may be increased or decreased according to requirement at the time of appointment.

Persons who have already applied for the following posts in response to Advertisements mentioned against each need not apply again. they may however intimate on plain paper if they have obtained any additional qualification or added any papers or any change in the address :

Professor : Botany, Economics—4/69, 8/71 ; Geography—5/71 ; Civil Engineering, Structural Engineering, Mechanical Engineering, History—7/71 ; Political Science—4/60, 7/71 ; Philosophy 2/69, 4/69, 4/71 ; **READERS :** Political Science, Botany—8/71 ; Physics, Chemistry—4/76, 6/70, 8/71 ; Economics—4/70, 6/70, 4/71, 8/71 ; Law—8/71 ; Commerce 6/70 ; **LECTURERS :** Music—3/70, 4/71 ; History, Sociology, Economics, Zoology—8/71 ; Hindi—7/71, 8/71 ; Geography—6/70, 8/71 ; Botany—6/70, 8/71 ; Law—7/71, 8/71 ; Commerce—6/71, 7/71, 8/71 ; Fine Arts—4/71 ; **ASSISTANT :** 4/70, 7/71 ; **RESEARCH ASSISTANT :** Zoology, Hindi, History—7/71 ; Mechanic (Physics)—6/69-

Application forms can be obtained from the undersigned for which a crossed Indian Postal Order for Rs. 2/- endorsed in favour of the Registrar, Jodhpur University payable at Jodhpur be sent alongwith a self-addressed envelope of 24x11 cms. bearing postage stamps of 35 paise + 0.05 paise = 0.40 paise. The last date for receipt of application is 17th July, 1972. The Vice-Chancellor may at his discretion condone delay in receipt of application.

(S. Chakrabarti)

Registrar

BANARAS HINDU UNIVERSITY

(Advertisement No. 5/1972-73)

APPLICATIONS are invited for the undermentioned posts. The benefit of Provident Fund/Pension, Dearness Allowance House Rent Allowance and City Compensatory Allowance are admissible according to the University Rules. The retirement age of the University employees is 60 years. The appointment will be made on two years' probation on all permanent posts. Higher starting salary within the grade is admissible to specially qualified and experienced candidates.

The prescribed form for applications will be sent free of cost by the Dy. Registrar (Academic), Selection Committee Section, Banaras Hindu University Varanasi-5 alongwith the leaflet of information on receipt of a self addressed envelope (9"x4"). Applications for each post be sent separately with application fee of Rs. 7.50 remitted by Bank Draft/Crossed I.P.O. in favour of the Registrar (Academic), Banaras Hindu University. M.O. or Cheque will not be accepted. Candidates called for interview will be paid Second Class Railway fare bothways by the shortest route. No other expenses will be paid. The last date for the receipt of applications is 15th July, 1972.

Note :—Those who applied for the post Nos. 3 and 4 in response to our earlier advertisement need not apply again but may indicate if they want to be considered against this advertisement, mentioning the post.

(1) Professor of Education (2 posts)

(Faculty of Education)

Grade : Rs. 1100-50-1300-60-1600

Qualifications Essential : (1) A First or Second Class Master's Degree in Education or an equivalent qualification with Master's degree in any other subject. (2) A Doctorate degree or published work of a high standard in the subject. (3) About 10 years experience of Post-Doctoral research and/or of teaching in an institution of eminence or University. (4) Ability to guide research of a high standard.

(2) **Reader in Mathematics** (Faculty of Science)

Grade : Rs. 700-50-1250

Qualifications Essential : (1) A First or Second class Master's Degree in the subject or an equivalent qualification. (2) A Doctorate Degree and/or published work of a high merit in reputed journals. (3) About 5 years experience of Post-doctoral research and/or of teaching at a University or College. (4) Experience of guiding research.

(3) **Reader in Arabic** (Faculty of Arts)

Grade : Rs. 700-50-1250

Qualifications Essential : (1) A First or Second class Master's Degree in the subject or an equivalent qualification. (2) A Doctorate Degree and/or published work of a high merit in reputed journals. (3) About 5 years experience of Post-doctoral research and/or of teaching at a University or College. (4) Command over spoken and written modern Arabic. (5) Experience of guiding research.

(4) **Reader in Persian** (Faculty of Arts)

Grade : Rs. 700-50-1250

Qualifications Essential : (1) A First or Second class Master's Degree in the subject or an equivalent qualification. (2) A Doctorate Degree and/or published work of a high merit in reputed journals. (3) About 5 years experience of Post-doctoral research and/or of teaching at a University or College (4) Command over spoken and written modern Persian. (5) Experience of guiding research.

(5) **Lecturer in Physics** (Faculty of Science)

Grade : Rs. 400-40-800-50-950

Qualification Essential : A First or Second class Master's Degree in the subject or an equivalent qualification. **Desirable :** (1) Aptitude for research as indicated by published work. (2) Doctorate Degree in the subject and/or some teaching experience.

(6) **Lecturer in Mathematics** (For ladies only—Women's College)

Grade : Rs. 400-40-800-50-950

Qualifications Essential : A First or Second class Master's Degree in the subject or an equivalent qualification. **Desirable :** (1) Aptitude for research as indicated by published work (2) Doctorate Degree in the subject and/or some teaching experience. (3) Ability to teach through the medium of Hindi.

BANARAS HINDU UNIVERSITY LAW SCHOOL ADMISSION NOTICE

The Law School invites applications for admission to its programmes of study during 1972-73 leading to the LL.B., LL.M., and Ph. D. Degrees.

A: Requirements for admission

1. LL.B. : Bachelor's degree
2. LL.M. : Three years' LL.B.

degree with at least 60% marks in the aggregate of various examinations comprising the LL.B. Degree, and proficiency in English.

3. Ph. D. : Master's degree in law with high marks and proficiency in English.

B. Duration of Courses

LL.B. : Six semesters spread over a period of three years.

LL.M. : Four semesters spread over a period of two years.

Ph.D. : Two years.

C. Scholarships

1. LL.B. : Atleast 12 scholarships, each of the value of Rs. 75/- p.m. Efforts are being made to secure more scholarships.

2. LL.M. : Six scholarships, each of the value of Rs. 100/- p.m.

3. Ph.D. : Four scholarships of the value of Rs. 250/- p.m.

Besides freeships, some ad-hoc grants are also available.

For details and application forms (available on pre-payment of Rs. 1.50 through Money Order or crossed Postal Order) apply to the Dean, Law School, Banaras Hindu University, Varanasi-5. Formal applications for admission supported by relevant documents must be received by the Dean before July, 22, 1972. Even where the results of qualifying examinations have not been announced, candidates must apply before July 22, 1972 and submit their respective marks within 10 days of the announcement of their results but not later than 7th of August, 1972.

MARATHWADA UNIVERSITY

Applications are invited for the following posts carrying University Grants Commission's Scales of Pay in the Post-graduate Departments of the University :—

1. Professor of Organic chemistry	1
2. Professor of Bio-chemistry	1
3. Reader in Physical Chemistry	1
4. Reader in Nuclear Physics	1
5. Reader in Solid State Physics (Temporary)	1
6. Reader in Zoology	2
7. Reader in Marathi	2
8. Reader in English	2
9. Reader in Economics	1
10. Reader in International Economics	1
11. Lecturer in Botany	2
12. Lecturer in English	1
13. Lecturer in German	1
14. Lecturer in Sociology	2
15. Lecturer in Political Science	1
16. Lecturer in Commerce	1

Detailed information regarding the prescribed qualifications in the subject with specialization, pay-scales etc. will be supplied along with the prescribed application forms on receipt of a self addressed envelope (23x80 cms) bearing postal stamps worth 70 paise to cover the postage. Applications in the prescribed forms should reach the Registrar Marathwada University, Aurangabad, not later than July 25, 1972, along with the fee of Rs. 3/- in the form of Postal Order.

University Campus. (V. K. Dhamankar)

AURANGABAD Registrar

Ref. No. Asti/Advt./

June 21, 1972. No. 9.

Corrigen

Textbooks Prescribed and Recommended

EDUCATION SECRETARY
GOVERNMENT OF INDIA
NEW DELHI

Dated the 29th November, 1971

FOREWORD

The Joint Indo-Soviet Textbook Board was set up in January, 1965. Since then a number of Soviet books used in their universities have been printed in English with the approval of the Government of India and made available for sale to Indian students. These books which are in the fields of Science, Technology, Medicine and Agriculture, have been a significant addition to educational material available in India.

In the Protocol signed in October this year, a review was made of the working of the Joint Board and new arrangements agreed upon. I have every hope that this programme of intellectual collaboration between the Governments of USSR and India will rapidly grow in its size and scope to encompass the best Soviet textbooks in all the important fields of Science and Technology.

T. P. Singh

SOVIET TEXTBOOKS PRESCRIBED FOR INDIAN STUDENTS

The majority of the books, listed below, are published by the Mir Publishers, Moscow.

The Mir publishers publish Soviet scientific and technical literature in English. Titles include textbooks for universities, technical schools and vocational schools; literature on the natural sciences and medicine, including textbooks for medical schools and schools for nurses, popular sciences and science fiction.

The authors of books published by the Mir publishers are leading Soviet scientists and engineers, specialising in all fields of science and technology, and include more than 40 members and Corresponding Members of the USSR Academy of Sciences. Skilled translators provide translation of a high standard from the original Russian.

Many of the titles already issued by the Mir publishers have been accepted as textbooks and manuals at educational establishments in India and other countries.

As many as 120 latest Soviet textbooks on science, technology, medicine, biology and other disciplines have been approved for Indian universities and schools. All these books are also recommended for translation into Indian languages. Seventy-two titles

of Soviet textbooks have been recommended for reference reading.

This programme is directed by the Joint Indo-Soviet Textbook Board composed of representatives of the governments of India and the USSR. The Education Secretary, Government of India, is the Chairman. The textbooks are Printed in the Soviet Union. Each book is evaluated by Indian scholars to determine its suitability for Indian educational institutions before it is approved by the Ministry of Education of the Government of India.

The retail prices of the title are reasonable and within the reach of the students.

Most of these and many other titles are readily available with the leading booksellers all over the country and positively with the importers of Soviet publications in India. The list of the main distributors appears at the end.

It is planned in future to publish Soviet textbooks not only in English language, but also in Hindi (translated from original Russian or from English).

Some of the textbooks in Hindi will be published in Moscow but the majority of the titles in Hindi and some other Indian languages will be published in India under the auspices of the Ministry of Education and Social Welfare.

TEXTBOOKS PRESCRIBED

PHYSICS

Title	Author	Pages	Price
A-Z the Soviet Encyclopaedia of Space Flight	Petrovich	620	15-00
A Course of General Physics	R. Gevorkyan	540	8-60
Handbook of Elementary Physics	N. I. Koshkin		
	M. G. Shirkevich	214	4-25
Hydraulics	B. Nekrasov	275	7-20
Introduction to Physics	A. Kitaigorodsky	724	9-60
Nuclear U 238 Power	D. Voskoboinik	150	9-50
Philosophical Problems of Elementary Particle Physics		475	8-30
The Atoms from A to Z	K. Gladkov		
The Physics of Rocks	Y. Rzevsky & G. Novik	350	7-75
The Structure of Atoms and Molecules	V. Kondratyev	544	8-40
Theoretical Physics	L. Landau & Y. Lifshits		
Theoretical Physics	A. Kompaneyets	616	10-80
Theory of Elasticity	M. Filonenko Borodich	388	7-20

CHEMISTRY

A Handbook of Problems and Exercises on Chemistry	I. I. Goldfarb & U. K. Khadakov		
Fundamentals of Petroleum-Chemical Technology	Belove	429	5-50
General Chemistry	N. Glinka	710	7-20
Organic Chemistry	B. Pavlov & A. Terentyev	616	8-40
Qualitative Analysis	V. Alexeyev	563	8-40
Quantitative Analysis	A. Alexeyev	518	8-40
Study of Oil and Gas Series Well Logs	Itenburg		
Theoretical Principles of Organic Chemistry	O. Reutov	701	9-00

MATHEMATICS

The Nature of Mathematical Knowledge	Ruzavin		
Problems and Exercises in Mathematical Analysis	Baranenkov	496	8-40
Problems in Mathematical Analysis	B. Demidovich	400	7-20

GEOLOGY

A Course of Mineralogy	A. Betekhtin	643	9-60
A Short Course of Geological Survey Work	G. C. Milaser & N. E. Eremin		
Economic Mineral Deposits	Dorokhin & others	368	7-20
Essentials of Crystallography	Y. Flint	226	5-40
General Geology	O. Lange, M. Kursanova & N. Lebedeva	300	5-40
	V. Baranov	323	6-25
Interaction of Sciences in the Study of Earth	Gorshkov	596	8-35
Physical Geology			

MECHANICS

Elements of Applied Theory of Elastic Vibrations	Y. Panovko	320	6-75
Fundamentals of Engineering Mechanics	L. Levinson	334	5-10
Lectures in Analytical Mechanics	P. Gantmacher	265	7-00

Contd. on Page 11

ELECTRICAL

Title	Author	Pages	Price
Basic Electrical Engineering	A. Kasatkin & N. Perekalin	388	10-70
Bridge and Potentiometer Methods of Electrical Measurement	K. Karandeyev	266	6-00
Electrical Engineering Materials	Karitsky	350	5-50
Electrical Equipment for Generating Stations and Substations	Baptidanov		
Electrical Measurements	Pupov	312	4-15
Electrical Arc Welding	Shebeko		
Electric Drive	Chilikin	492	8-30
Electric Power Stations—Equipment of Turbines and Chemical Department—Fitters' Guide	Engel-Kron	328	4-15
Electric Slag Welding	B. Paton (Editor)	386	7-20
The Electric Welder (A Manual)	V. Tsegelsky	280	4-00
Industrial Power Supply	A. Fyodorov	438	7-25
Maintenance of Electrical Equipment	Gelberg & Pakelis		
Maintenance and Repairs of Industrial Electrical Equipment	Atabekov		
Power Station Boiler Room Equipment Fitters' Guide	A. Tseshkovysky	360	5-00
Power Stations and Substations	L. Baptidanov & V. Tarasov	462	7-20
Practice of Technical Thermodynamics	V. N. Zuharev & A.A. Abksandov		
Protective Relaying in Electric Power System	M. Titarenko & Noskov-Dukelsky	400	7-20
Repair Shop Electrician	G. Vartanov, V. Verner, V. Serebryanov	267	3-60
Theoretical Fundamentals of Electrical Engineering	Bessonov		
Thermal Engineering	I. Shvets & Others	483	7-20
Thermodynamics	Sushkov	397	7-5
Ventilation, Airconditioning and Heating in Textile Mills	N. Sorokin	384	8-60

RADIO

Radio Engineering and Electricians Z. Pruslin and M. Smirnova

METALLURGY AND METALS

Engineering Manufacturing Process	D. Maslov & V. Danilevsky	432	7-20
Theory of Metallurgical Process	A. Volsky & E. Sergievskaya		
Forging Practice	Kamenschikov	485	7-20
Gas Welding and Cutting	D. Ghizmanenko & G. Yevseyev	430	7-20
General Metallurgy	N. Sevryukov & others	555	7-20
Heat Treatment—A Handbook	I. Kamenichny	276	3-60
Heat Treatment of Metals	Zakharov	311	7-20
The Melting of Cast Iron and Non-Ferrous Alloys	A. Lipnitsky	219	3-00
Metallurgist's Handbook	A group of authors	371	6-00
Metal Process Engineering	P. Polukhin & others	431	7-20
Production of Ferro-alloys	A. Riss & V. Khodorovsky	289	6-00

Title	Author	Pages	Price
Sheet Metal Work	Medvedyuk	360	4-50
Stress and Strain in Metal Rolling	A. Tselikov	475	7-20
Open Health Practice	I. Bornatsky and others	340	7-20
Theory of Metallurgical Process	A. Voliky & E. Sergievskaya		
MACHINES AND MECHANISMS			
Boring Practice	Smirnov	322	4-20
Conveyors and Related Equipments	A. Spiuakovsky A		
	V. Dyachkov	444	7-20
Elements of Lathe Work	B. Brushdtein & Dementyev	443	6-60
Engineering Drawing	Bogolyubov	355	7-25
Fits, Tolerances and Engineering Measurements	Y. Tarasevich & others	160	5-00
Fundamentals of Manufacturing Engineering	S. Balakshin		
Fundamentals of Process Engineering	Kovan	486	7-20
Machine Tool Design (in 4 Vol)	Acherkan (Editor)		31-30
Materials Handling Equipment	N. Rudenko	446	7-20
Mechanical Drawing	A. Serebriakov & others	199	5-50
Metal Cutting Machine Tools	A. Gavrynshin & others	383	8-60
Metal cutting Tool Production	M. Palay	531	7-20
Rolling Practice	P. Polukhin & others	510	9-60
Theory of Machines	Dobrolubov,	516	8-40
Tractors	A. Gurevich & E. Sorokin		
WOODCRAFT			
Installation and Maintenance of Wood Working Machinery	I. Sheinov	325	7-20
Wood Working Machinery and Cutting Tools	Afanasiev	625	8-60
MARINE			
Marine Power Plant	P. Akimov	380	8-40
Nautical Astronomy	B. Krasavtsev &		
	B. Khlyustin	615	9-50
MINING			
Mine Surveying	D. Ogloblin	240	6-20
Mine Ventilation	A. Skochinsky & V. Komaroy	579	8-40
Technology of Production and Repairs of Mining Instruments	Shilov		
CONSTRUCTION			
Erection of Prefabricated Reinforced Concrete Structures	Y. Besser & V. Proskurnin	280	4-20
Concrete and Concreting	Tretyakov	312	4-25
AGRICULTURE			
Farm Machinery (A Manual)	N. Bushuyev, G. Alexeyev &		
	V. Plaksin	303	4-80
Fruit Biology	V. Kolesnikov (Editor)	338	6-30
Hydrogeology of Irrigated Lands	Dr. A. Siline—Bekchourine	109	3-00
Reclamative Soil Science	I. Plyusnin	398	7-20

Title	Author	Pages	Price
HISTORY			
A History of Africa (1918-1967)		540	8-60
PHILOSOPHY			
Fundamentals of Dialectical Materialism	G. Kursanov & others	323	3-30
Historical Materialism. Basic Problems	G. Glezerman, G. Kursanov & others	333	3-00
LAW			
Fundamentals of Soviet Law	Ramashkin		3-40
EDUCATION			
Problems of Soviet School Education	A. S. Makarenko	154	1-80
LEARNING RUSSIAN			
Russian, practical Grammar with Exercises	I. Pulkina & E. Zakhava	625	5-75
MEDICINE AND BIOLOGY			
Atlas of the Operation on the Rectum and Colon	A. Ryzhikh	335	24-00
Atlas of Surgical Anatomy of the Lower Extremity	Kovanov		
Control of Communicable Diseases in the USSR	Zhdanov		
Corneal Transplantation in Complicated Leukomas	Pushkovskaya	212	5-40
Drugs and Medicinal Preparations	Ministry of Health (USSR)		
General Biology	Nekrasov		
Human Physiology	Babsky	419	8-30
Mechanical Suture in Vascular Surgery	P. Androsov	149	3-50
Microbiology	K. Pyatkin	584	8-50
Prevention of Maternal and infant Diseases	Makeyev		
Psychiatry	Portnov & Fedorov	371	7-25
Resection and Plastic Surgery of Bronchi	B. Petrovsky	243	6-00
Skin and Venereal Diseases	Fadcyev	352	6-00
State Pharmacopia in the USSR	Ministry of Health (USSR)		12-60
Textbook of Biology	Karuzina		
The Word as a Physiological and Therapeutic Factor	Platonov	452	11-90
POPULAR SCIENCE			
ABC's of Quantum Mechanics	Rydnik	330	3-25
Animal Travellers	I. Akimushkin	378	3-00
The Mystery of the Earth's Mantle	A. Malakhov	231	1-80
Origin of the Earth and Planets	Levin		
Psychology and Space	Gagarin & Lebedev	271	2-10
Relativity and Man	Smilga	346	2-40
Sounds and Signs	A. Kondratov	285	2-00
Space and Time Perception	A. Leonov & V. Lebedev	200	1-60
REFERENCE BOOK			
PHYSICS			
Antennas	G. Markov	512	7-25
Industrial Radiology—Flaw Detection	S. Rumyantsev	282	7-10
CHEMISTRY			
Laboratory Exercises in General Chemistry	V. Semishin	343	7-20

Title	Author	Pages	Price
Textbook of General Chemistry	B. Nekrasov	480	7-20
MATHEMATICS			
A Brief Course of Analytical Geometry	N. Yefimov	251	6-00
Descriptive Geometry	N. Krylow, P. Lobandiyevsky, S. Men	384	7-20
Higher Mathematics	I. Suvoroy	310	7-20
Problems in Analytical Geometry	N. Yofimov	298	3-90
GEOLOGY			
The exploitation and Development of Oil and Gas Deposits	I. Muravyov & others	503	7-20
Fundamentals of Geology	V. Obruchev	375	5.65
Prospecting for Minerals	Y. D. Kitaisky	207	3-30
CYBERNETICS			
Thinking Machines	L. Gantmacher	186	3.00
ELECTRONIC			
Electronics in Industry	I. Kaganov	496	7-20
ELECTRICALS			
Electrical Equipment for Industry	Lipkin	277	6-00
Electric Machines (in 2 parts)	Kostenko & Part I	500	7-20
	Piotrovsky Part II	682	9-50
The Industrial Electrician	N. Vinogradov	313	4-30
Industrial Wiring	Polyakov & Kovarsky	308	4-80
Mine Electrician	Y. Mikheyev & Faibisovich	465	7-20
Switchgear Installation	M. Kireyev & A. Kovarsky	383	4-80
RADIO			
Propagation of Radio Waves	M. Dolukhanov	375	8-00
CONSTRUCTION			
Elements of Railway Surveying	Bezruchko	207	3-00
METALLURGY AND METALS			
Engineering Physical Metallurgy	Lakhtin	464	7-20
Forging Practice	Kamenshikove & others	412	7-20
Fundamentals of Heat Transfer	M. Mikheyev	375	7-20
Fundamentals of Milling Practice	S. Avrutin	330	3-60
Heat Treatment of Metals	Zakharov	172	7-20
Steel Foundry Practice	P. Bidulya	320	6-00
MACHINES AND MECHANISMS			
Automatic and Semi-Automatic Lathes	B. Boguslavsky	480	6-30
Bench Work Practice	N. Makarenko	475	5-60
Elements of Lathe Work	B. Brushtein & Dementyev	443	6-60
Fish Processing Equipment	N. Chupakhin & V. Dormenko	531	7-20
Handbook of Lathe Operators & Foreman	S. Fomin	265	3-00
Industrial Radiology—Flaw Detection	S. Rumyantsev	275	7-10

Title	Author	Pages	Price
Machine Elements	Dobrovolsky & others	576	8-40
Metal Cutting Machine Tools	A. Gavryushin & other	383	8-60
Truck Cranes	Astakhov		
MINING			
Safety in Open Cast Mining	N. Melnikov & M. Chesnokov	390	7-25
WOODCRAFT			
Science of Wood	L. M. Pereygin	200	5-40
HISTORY			
Ancient History (for schools)	Korovkin		
Constitution of the USSR		116	1-20
A Short History of the USSR (Part I)		334	4-80
A Short History of the USSR (Part II)		413	4-80
LAW			
An Introduction to the Theory of Evidence	A. Trusov	262	2-60
MEDICINE AND BIOLOGY			
Diseases of Thyroid Gland	Khavkin & S. Nikolayev	260	5-50
Infectious Diseases	K. Bunin	450	7-25
Know Your Child	N. Tur	266	3-00
Lesions of the Nervous System			
Associated with Internal Diseases	E. Lure	256	5-10
Natural Nidality of Transmissible Diseases	E. N. Pavlovsky	426	6-60
obstetrics and Gynaecology	A. Kaplan	329	4-80
Oral Live Poliovirus Vaccine	N. P. Chumakov (Editor)	638	19-20
Painless Childbirth Through Psychoprophylaxis	Velkovsky & others	416	7-50
Paranasal Sinuses and Diseases of the Orbit	F. Dobromylsky & I. Scherbatov	220	6-50
Pathologic Physiology	D. Alpern	475	7-20
Propedeutics of Children's Diseases	V. Moichanov & others	391	7-20
Rickets	M. Bessonova	166	3-50
Selected Physiological and Psychological Work	Sechenov	608	10-70
Selected Works	I. P. Paylov	662	3-85
Strengthen Your Heart	Zelenin	134	2-30
Textbook of Physiology	K. M. Bykov	757	10-15
Textbook of Surgery	A. Velikoretsky	457	7-20
Tuberculosis	Prof. V. L. Einis	210	6-00
LERNING RUSSIAN			
Conjugation of Russian Verbs	Pirogova & Makarova	312	4-80
Exercises in Russian Syntax—Complex Sentences	S. Neverov		2-30
Exercises in Russian Syntax—The Simple Sentence	V. S. Belevitskayakhalizeva	251	1-75
Learning Russian (in 4 parts)	N. Potapova Part I	208	
	„ II	172	
	„ III	158	each 1-70
	„ IV	152	
Lexicology and Phraseology	Sazonova		

Title	Author	Pages	Price
Russian	V. N. Wagner & Y. G. Ovsienko	645	10-00
Russian As We Speak it	S. Khavronina	276	2-40
Russian-English Scientific and Technical Dictionary	G. Zimmerman	294	8-95
The Russian Verb—Aspects and Voice	A. Vilgelminina	144	1-20
POPULAR SCIENCE			
In the Search of Beauty	V. Smilga		
In the World of Isotopes	Mezentsev	53	0-30
What is the Theory of Relativity	Lahdan & Rumer	65	0-65



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New Delhi-55

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Trivandrum, Ernakulam,
Alleppey, Calicut, Cannanore,
Udyogmandala, Quilon

Visalaandhra Book House
Sultan Bazar,
Hyderabad

People's Book House,
Hazaribagh Road,
Ranchi

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Bajrakabati Road,
Cuttack.

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Bhopal

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Jaipur

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Patna

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Gauhati

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Chandigarh

Punjab Book Centre,
Post Office Road,
Jullundur

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Ahmedabad

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Madurai, Coimbatore,
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BERHAMPUR UNIVERSITY

Berhampur-7, Ganjam, Orissa.

No. 1855/BU/Admn./72

dated 30th June, 1972.

ADVERTISEMENT

Applications are invited for the following teaching Posts for the Post Graduate departments of this University.

<i>Sl. No;</i>	<i>Subject</i>	<i>Post Vacant</i>	<i>No. of vacancies.</i>
1.	History	Professor	one
2.	Oriya	Professor	one

Scale of Pay : Rs. 1100-50-1300-60-1600/- plus usual Dearness Allowance and other allowances, as admissible by the University from time to time.

Qualification and Experience.

- A good academic record.
- At least five years experience as a Reader Preferably with experience of teaching in P. G. Classes and a total teaching experience of not less than 10 years.
- Research degree or outstanding published work of equivalent standard.
- Ability to guide research work.
- For Professor in History, Specialisation in Indian History (Particularly Ancient Indian History and culture) is desirable.
- For Professor in Oriya should have Post Graduate qualifications both in Oriya and Sanskrit.

Seven copies of Prescribed application form will be supplied to the candidates from the Office of the undersigned on payment of Rs. 1.50 Paise in person or by postal order payable in favour of the Registrar. Berhampur University alongwith a self-addressed envelop measuring 22 x 10 cms., affixed with postage stamps worth 0.85 paise (including Refugee Relief Stamp worth of 0.05 paise). No money order will be entertained for the purpose.

The applications duly filled in should reach the undersigned on or before 7-8-72. Applications received after the due date will not be entertained.

Candidates who are in service should apply through Proper Channel.

Sd./- R. C. Rajguru,
Registrar

SAMBALPUR UNIVERSITY, SAMBALPUR**ADVERTISEMENT**

No. 14740/TDS.

Dated the 24-6-72

Applications in the prescribed forms with attested copies of Mark-sheets and Certificates of all the examinations passed are invited for the following posts of the University Post-graduate Departments :

<i>Sl. No.</i>	<i>Name of the Department</i>	<i>Prof.</i>	<i>Reader</i>	<i>Lecturer</i>
1.	English	...	...	One
2.	Political Science	...	One	—
3.	Economics	...	One	One
4.	Oriya	...	...	One
5.	Biological Sciences	...	Two	...
6.	Mathematics	...	One	...

(The posts of Lecturer at Sl; 1 and 3 are purely temporary)

- II. Scales of Pay : (i) Reader Rs. 700-50-1250/-
(ii) Lecturer Rs. 400-40-800-50-950/-

III. Age of Retirement : Sixty years of age

IV. Qualification Essential :

(a) Reader : A Reader shall have atleast

1. (i) (Political Science) :

a Second Class Master's Degree in the subject with 48% marks.

(ii) (Economics)

a Second class Master's Degree in Economics or Statistics with Economics with 48% marks.

(iii) (Biological Sciences)

A Second Class Master's Degree in Botany or Ecology or Biological Sciences with at least 48% marks.

2. Eight years of teaching experience in a college or University,

3. Ph. D. Degree or Research work of equivalent standard

4. Capacity to guide research, Post-graduate teaching experience will be regarded as additional qualification.

(b) A Lecturer shall have :

1. at least a Second Class Master's Degree in the subject with 48% marks.

2. Preference will be given to the candidates having at least two years of teaching research experience,

In exceptional cases essential qualification may be relaxed.

V. Qualification Desirable :

1. English (Lecturer) :

Selected candidate must be prepared to undergo training in: Linguistics, Phonetics, Structural description of English and Principle of teaching English as a foreign language.

2. Political Science (Reader) :

Preference will be given to the candidates having specialisation in one or more of the following subjects

(i) Political Theory (ii) Political Thoughts (iii) Contemporary Political Organisation (iv) International Affairs (v) International Law (vi) Public Economics (vii) Public Administration.

3. Economics :

(a) READER : Preference will be given to the candidates having specialisation in one or more of the following subjects :

(i) Econometrics and Mathematical Economics

(ii) Monetary Economics (iii) Industrial Economics.

(b) Lecturer : Specialisation in Econometrics will be considered desirable.

4. Biological Science :

READER : Preference will be given to the candidates having specialisation in :

(i) Animal Physiology and Biochemistry.

(ii) Plant Physiology and Biophysics or Biochemistry.

5. Mathematics :

READER : Preference will be given to the candidates having special knowledge in one or more of the following subjects :

(i) Function Analysis (ii) Analysis (iii) Topology (iv) Modern Algebra (v) Statistics.

All the above posts carry usual dearness allowance as would be sanctioned by the University from time to time.

Candidates for the posts of Reader should mention whether they are willing to be considered for the post of Lecturer if required to do so and in that case they should mention the minimum salary acceptable to them.

Seven copies of the application forms will be supplied from the University Office to each candidate in person on cash payment of Rs. 2/- (Rupees two only). Candidates intend to receive their forms by post are required to send (a) Cross Indian Postal order of Rs. 2/- payable to the Finance Officer, Sambalpur University, Sambalpur and (b) A self addressed envelope (23 cm x 10 cm) with postage stamp worth Rs. 2/- affixed to it with the words "APPLICATION FORM FOR THE TEACHING POSTS IN THE SAMBALPUR UNIVERSITY" superscribed on it. Money order/Cheque will not be entertained.

The last date of receipts of application in the office of the University, Budharaj Hills, Sambalpur (Orissa) is 31-7-1972.

All communications should be addressed to the undersigned by designation only.

The Selected candidates must join within two months from the date of the issue of appointment letter.

Sd/- (S. SAHU),
Registrar

**HARYANA AGRICULTURAL UNIVERSITY
HISSAR
ADMISSION NOTICE (CORRIGENDUM)**

All concerned may please note the following modification in the dates announced earlier vide advertisement published on 14th & 18th June, 1972 in this newspaper.

In view of the delay in the announcement of result of Matriculation/Higher Secondary Part I examination of the Haryana Board, the last date for the receipt of applications for admission to B.Sc. (Hons.) Ag. 5 year programme and B.Sc. (Hons.) An. Sc. 6-year programme have been changed from 26-6-72 to 7-7-72. The interview for all eligible candidates will be held on 14-7-1972 at 10.00 a.m. in the Committee Room of the concerned College. The dates in respect of all other programmes remain unchanged. No interview letters will be sent to the candidates.

L. Ramchandran,
Registrar.

University of Calicut

No. Ad. A4-26873/71

P. O. Calicut University,
26th June, 72.

N O T I F I C A T I O N

Applications in the prescribed form are invited from qualified candidates for the undermentioned posts in the university. Candidates appointed to permanent posts will be on probation for a period of two years on duty within a continuous period of three years and will be governed by section 41 of the Calicut University Act (Act 24 of 1968) and the relevant provisions of the Statutes, Ordinances and other University rules as amended from time to time.

Department	Name of post	Nature of vacancy	No. of vacancies
1. HISTORY	Professor	Permanent	1
	Reader	do	1
2. ZOOLOGY	Reader	do	1
	Research Assistant	Temporary (for one year)	1
3. COMMERCE	Lecturer	Permanent	1

4. BOTANY	Lecturer (Taxonomy)	do	1
5. FORESTRY	Lecturer	Temporary (for one year)	1
6. FISHERIES	Research Assistant	Temporary (for one year)	1
	Scale of pay	Age prescribed	Application fee
Professor	1000-1100	Between 35-45	Rs. 10/- each
Reader	700-1100	Between 30-40	
Lecturer	400- 800	Between 25-35	
Research Assistant	310- 600	Between 25-35	

1. DEPARTMENT OF HISTORY

(a) Professor :

Qualifications :

1. A I or II class Masters' Degree of an Indian University or an equivalent qualification of a foreign University in History.
2. Either research Degree of a Doctorate standard or published work of a high standard.
3. About ten years experience of teaching at a University or College and some experience in guiding research.

(b) Reader :

Qualifications :

1. A I or II class Masters' Degree of an Indian University or an equivalent qualification of a foreign University in History.
2. Either a Research Degree of a Doctorate standard or published work of a high standard.
3. About 5 years experience of teaching at a University or College and some experience in guiding research.

2. DEPARTMENT OF ZOOLOGY

(a) Reader (Animal Ecology) :

Qualifications :

1. A I or II class Masters' Degree of an Indian University or an equivalent qualification of a foreign University in Zoology.
2. Either a Research Degree of a Doctorate standard or published work of a high standard in any branch of Animal Ecology.
3. About 5 years experience of teaching at a University or college and some experience in guiding research.

(b) Research Assistant :

Qualifications :

A I or II class Masters' Degree of an Indian University or an equivalent qualification of a foreign University in Zoology. Candidates with some research experience as evidenced by publication will be preferred.

3. DEPARTMENT OF COMMERCE

(a) Lecturer :

Qualifications :

A I or II class Masters Degree of an Indian University or an equivalent qualification of a foreign University in Commerce.

4. DEPARTMENT OF BOTANY

(a) Lecturer :

Qualifications :

A I or II class Masters' Degree of an Indian University or an equivalent qualification of a foreign University in Botany with specialisation in Plant Taxonomy or Apology. (Preference will be given

to candidates with research Degree in any of the above disciplines or published research work of an equivalent standard and having post graduate teaching experience in undertaking independent research work and knowledge of French, German or Russian).

5. DEPARTMENT OF FORESTRY

Lecturer :

Qualifications :

A I or II class Masters' Degree of an Indian University or an equivalent qualification of a foreign University in Botany with experience of teaching and research in Forestry.

6. DEPARTMENT OF FISHERIES

Research Assistant :

Qualifications :

A I or II class M. Sc. in Biochemistry/Chemistry/Food technology. Preference will be given to those with some experience in Fish Processing Technology.

2. If candidates possessing sufficiently high qualifications and research experience are not available, appointment may be made to posts in lower categories.

3. Each candidate should submit 6 copies of the application. Copies of the application form can be had from the University on payment of Rs. 3/- (Rupees Three only) by crossed Postal Order payable to the Registrar, University of Calicut, Calicut university P. O. When two or more posts are applied for by the same candidate separate application should be submitted for each post.

4. The prescribed age and qualifications are relaxable in the case of candidates who are otherwise well qualified.

5. Applications together with the prescribed fee in the form of a crossed Postal Order payable to the Registrar, University of Calicut, Calicut University P. O. should reach the Registrar, University of Calicut on or before 22-7-1972. The cover containing the applications should be superscribed "Application for the post of.....".

6. Applicants, if required, should appear for an interview at their own expense at the Calicut University Office.

Punjab University

(Advertisement No 30/72)

Applications are invited for the following posts so as to reach the Registrar, Panjab University, Chandigarh, by 7. 7. 1972, alongwith postal orders for Rs. 5/-

1. Department of Pharmaceutical Sciences

Research Assistant

1 Grade Rs. 300-15-420-20-500

Qualifications.

M. Pharm. 1st Class and must have experience in processing Medicinal Plants in the form of dosage drugs.

2. Department of Mathematics/Advanced Centre of Mathematics.

Senior Research Fellow

1 @ Rs. 500/- p.m. (fixed)

Research Assistant

1 Grade Rs. 300-25-400

Junior Research Fellows

8 @ Rs. 333/- p.m. (fixed) each.

Research Scholars

2 @ Rs. 250/- p.m. (fixed) each.

One Research Fellowship and one Scholarship is reserved for the Statistics Section.

Qualifications.

The applicants for Senior Fellowship should have evidence of advanced training and research aptitude in the form of proved results; preferably in the fields of Algebra, Theory of Numbers or Functional Analysis. For other posts only candidates with high academic record need apply.

3. Department of Geology/Advanced Centre in Geology.

1. Senior Research Fellows 3 @ Rs. 500/- p.m. (fixed) each.
2. Junior Research Fellows 4 @ Rs. 300/- p.m. (fixed) each.
3. Research Scholar 1 @ Rs. 250/- p.m. (fixed)

Qualifications.

Senior Research Fellows.

Ph.D. degree in Geology or published research work and already proved aptitude for original and independent research.

Junior Research Fellows.

M. Sc. 1st class in Geology with aptitude for research work and one year's field training or research experience.

Research Scholar

1st or high 2nd class Master's degree in the subject with aptitude for Research.

4. Department of Biochemistry.

1. Teaching Assistants 3 @ Rs. 350/- p.m. (fixed) each
2. Research Scholars-cum Demonstrators. 4 @ Rs. 250/- p.m. (fixed) each

Qualifications.

Teaching Assistants.

1st Class M.Sc. in Biochemistry and a sound knowledge of Modern Biochemical theory and practice.

Research Scholars-cum-Demonstrators.

1st or 2nd class Master's degree in Biochemistry with aptitude for research.

5. Department of Psychology.

- Research Scholar 1 @ Rs. 250/- p.m. (fixed)

Qualifications

1st or high 2nd class Master's degree in the subject with bright academic record and aptitude for research.

6. Department of Ancient Indian History, Culture and Archaeology.

- Research Scholar 1 @ Rs. 250/- p.m. (fixed)

Qualifications.

1st or 2nd class Master's degree in Ancient Indian History, Culture and Archaeology or in Sanskrit with Epigraphy. Person holding a Diploma from the Indian school of Archaeology and / or having knowledge of Sanskrit/Pali/Prakrit of B.A. standard will be preferred.

7. Regional Centre for the Post Graduate Studies, Rohtak.

Research Scholars @ Rs. 250/- p.m. (fixed) each in the subjects of English (1), Economics (1), Political Science (1), Mathematics (1), Chemistry (3).

Qualifications

1st or 2nd class Master's degree in the subject concerned with aptitude for research.

8. Department of Physical Education.

1. Instructor in Rhythemics 1 Grade Rs. 300-25-600.

Qualifications.

A first or second class Diploma/Degree in Physical Education with specialisation in Rhythemics such as dances and folk dances. Those proficient in playing on one or more musical instruments will be preferred.

2. Research Scholar 1 @ Rs. 250/- p.m. (fixed)

Qualifications.

A first or second class Master's Degree in Physical Education (Two-Year Course) with good academic record, published articles or papers. Evidence of research experience will be an additional qualification.

3. Care-Taker for the Swimming Pool. 1. Grade Rs. 100-5-200.

Qualifications.

Good in Swimming and able to read and write English. Those with Life-Saving certificate will be preferred.

Persons already in service should route their applications through their employers.

Application forms can be obtained from the office of the Finance & Development officer, Punjab University, Chandigarh by making a written request accompanied with self-addressed stamped envelope of 23 x 10 cms.

ANDHRA UNIVERSITY, WALT AIR.

Applications in separate prescribed forms are invited so as to reach the Registrar on or before 3. 8. 1972 for the following posts in the Andhra University Colleges. Each application shall be accompanied by a Crossed Indian Postal Order for Rs. 10/- or a Bank receipt remitting the amount in the State Bank of India.

Subject	Professor	Reader	Lecturer
1. History & Archaeology	2	—	—
2. Hindi	—	1	1
3. Psychology	—	—	1**
4. Philosophy	—	—	2
5. Sociology	—	—	2
6. Business Administration	—	—	2*
7. Physics	1	2	1**
8. Botany	2	1	—
9. Geology	—	1	2**
10. Zoology	—	3	—
11. Applied Physics	—	2	—
12. Meteorology	—	1	—
13. Applied Mathematics	—	—	1
14. Statistics	—	—	1*
15. Chemical Engineering	—	5	—
16. Electrical Engineering	—	1	1*
17. Civil Engineering	—	2	1*
18. Mechanical Engineering	—	2	—
19. Education	1	1	3

*Lien vacancies

**Research Associates

Note:— All appointments except lien vacancies are tenable for a period of 5 years in the first instance but renewable at the discretion of the University. Lien vacancies will be terminated as and when the permanent incumbents join duty.

SCALES OF PAY:—

Professor: Rs. 1,100-50-1,	Plus
300-60-1, 600	Dariness
Reader : Rs. 700-50-1, 250	Allowance
Lecturer/	Admissible
Research Associate	as per rules
Rs. 400-40-800-50-950	

QUALIFICATIONS

(1) Science/Humanities

(a) Professors and Readers

Essential: 1. A first or high second class Master's Degree of Indian University or an equivalent qualification from a foreign University in the Subject.

2. A research degree of Doctorate standard or published work of a high standard in the Subject.

3. Experience of teaching Honours or Post-Graduate classes for a period of ten years for Professors, five years for Readers, and experience of guiding research for both the posts.

Desirable

Physics —for Professor/One Reader : 'Ionosphere and Space Physics' for other Reader : "Theoretical Physics"

Botany —For one Professor-Reader : "Plant Cytogenetics and Cytochemistry"

Geology —(i) Sedimentology including Marine Geology and Micropalaeontology

(ii) Economic Geology

(b) Lecturers/Research Associates

Essential: A first or high second class Master's Degree of an Indian University or an equivalent qualification of a foreign University.

Philosophy—For one post : 1 or high II Class Master's Degree

(a) in Philosophy or History or Central Asian/South Asian/Far Eastern/SE Asian Studies with specialisation in Bud-

dhist thought or culture and knowledge of one of these three languages : Chinese, Japanese or Tibetan; or

(b) in Buddhist Studies with knowledge of one of these three languages : Chinese, Japanese or Tibetan or

(c) in Chinese, Japanese, or Tibetan with specialisation in Buddhism and knowledge of English.

Sociology—For one Post : I or high II Class Master's Degree in Social Sciences or Philosophy with specialisation in Psychology.

Desirable : Physics—'Ionosphere and Space Physics'.

Hindi—'Knowledge of linguistics'

Psychology—Experience in Dream Research and in the use of EEG equipment.

Geology—(i) Sedimentology including Marine Geology and Micropalaeontology
(ii) Economic Geology.

(2) ENGINEERING

(a) Readers

A Doctorate Degree in appropriate field of specialisation obtained after taking a Master's Degree in the appropriate Branch.

or

A Master's Degree in the appropriate branch of Engineering with a minimum total experience of 5 years in responsible position in Design, Construction, Production, Research or teaching in the concerned branch of Engineering of which at least three years should have been in a position not below the rank of a Lecturer or of equivalent grades in specified field of the specialisation.

the post of Reader in Chemical Engineering specialisation in Electrical Technology is essential and another post of Reader specialisation in instrumentation is desirable.

(b) Lecturers

- (i) A Master's Degree in the appropriate branch of Engineering with experience of not less than one year in design, construction, production, research or teaching in the concerned branch of Engineering in a position not below the rank of an Associate Lecturer or equivalent grades.

or

- (ii) A Bachelor's Degree, preferably in first class, in the appropriate

branch of Engineering with a minimum total experience of not less than 3 years in design, construction, production, or teaching in the concerned branch of Engineering in a position not below the rank of an Associate Lecturer or equivalent grades.

Note :—Candidates who have successfully undergone the prescribed training course for technical teachers of Engineering Colleges will be deemed to satisfy the qualifications prescribed under Clause (i) above.

Requisitions for the prescribed application forms may be made to Sri

P. Hanumantha Rao, Deputy Registrar, Andhra University, Waltair accompanied by a self-addressed and stamped envelope and a State Bank Challan or a Crossed Indian Postal Order for one Rupee in favour of Registrar, Andhra University, Waltair.

The University reserves the right to fill or not to fill any or all of the above posts.

University Office, Waltair, Dated : 3.7.1972. (M. Gopalakrishna Reddy) Registrar.

SAMBALPUR UNIVERSITY

Sambalpur

ADVERTISEMENT

Applications in the prescribed forms with attested copies of marksheets and certificates of all the examinations passed are invited for a post of Lecturer in Mechanical Engineering in the scale of pay of Rs. 400-40-800-50-950/- for the University College of Engineering, Burla.

QUALIFICATION ESSENTIAL :

A Second Class Bachelor's degree in the subject.

QUALIFICATION DESIRABLE:

Preference will be given to candidates having Master's degree in the subject.

AGE OF RETIREMENT: Sixty years of age.

The post carries usual dearness allowance as would be sanctioned by the University from time to time.

Seven copies of the application forms will be supplied from the University Office to each candidate in person on cash payment of Rs. 2/- (Rs two only). Candidates intending to receive their forms by post are required to send (a) a crossed Indian P. O. of Rs. 2/- payable to the Finance Officer, Sambalpur University, Sambalpur and (b) a Self addressed envelope (23 cm x 10 cm) with postage stamp worth Rs. 2/- affixed to it with the words "APPLICATION FORM FOR THE TEACHING POSTS IN THE SAMBALPUR UNIVERSITY" supers-

cribed on it. Money order/cheque will not be entertained.

The last date of receipt of the applications in the office of the University, Budharaja Hills, Sambalpur (Orissa) is 24.7.1972.

All communications should be addressed to the undersigned by designation only.

The selected candidate must join the post within two months from the date of issue of the appointment order.

Sd/- (S. Sahu)
REGISTRAR

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Research for Doctoral Degree in various subjects is always in progress somewhere—Yours scholars desparately need to know that we have four volumes classified Bibliographies to help them.

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3. Research in Progress Vol. III Social Sciences Rs. 32/-
4. Research in Progress Vol. IV Humanities Rs. 50/-

INTER-UNIVERSITY BOARD OF INDIA & CEYLON
ROUSE AVENUE, NEW DELHI-1.

BANARAS HINDU UNIVERSITY**Advanced Centre in Philosophy Scholarships**

Applications are invited for six National Scholarships of the value of Rs. 150/- per month each and four Junior Research Fellowships of the value of Rs. 300/- per month each for post graduate studies and for Research leading to the award of Ph. D. respectively at the Centre of Advanced Study in Philosophy, Banaras Hindu University. Application on prescribed forms available from the Centre, free of charge, may be sent to the Director, Centre of Advanced Study in Philosophy, B.H.U., Varanasi-5 by 10th August, 1972.

BANARAS HINDU UNIVERSITY**EVENING COLLEGE**

Applications, on the prescribed forms are invited for admission to B.A. Pt. II (Three years degree course) of the Evening College, Banaras Hindu University, Varanasi for the session 1972-73. The prescribed application form and bulletin of informations containing details of admission requirements and other relevant informations can be had from the office of the Incharge, Evening College on Prepayment of Rs. 1.50 Paisa through crossed postal order or money order. Application forms duly filled in are to be sent to the Incharge, Evening College, (Camp Office Birla Hostel) B.H.U., Varanasi. The Evening College offers the following subjects for study: Hindi, History, Economics, Sociology and Political Science.

The subject groups are as below :

1. Hindi History Political Science
2. Hindi Sociology Political Science
3. Hindi Economics History
4. Hindi Sociology History
5. Economics, Political Sc., History.

Candidates who have passed I.A./I.Sc./I. Com. examination or its equivalent are eligible for admission to B.A. Part II in order of merit. The last date for the submission of admission application form is July 15, 1972.

FACULTY OF SOCIAL SCIENCES

The Faculty of social sciences offers

Post-graduate and Under-graduate courses in the following subjects :

- (1) Economics, (2) History, (3) Political Science (4) Psychology, (5) Sociology.

Post-graduate Diploma Course in Clinical Psychology.

For admission to the M.A. courses in any of the above mentioned subjects, the minimum qualification required is:

At least B. A. or its equivalent examination.

Students seeking admission to B.A. Part I and Part II have the option to offer two or three optional subjects of the above mentioned five subjects.

The following minimum qualifications are required for admission to :

B. A. Part I :

(a) P.U.C. or its equivalent examination/ or

(b) Higher Secondary Examination. B. A. Part II :

Intermediate Examination or its equivalent.

All admissions will be made strictly on the basis of merit within the fixed quota of seats.

Candidates desirous to be considered for admission in separate courses of study shall apply separately.

The last date for the submission of Admission Forms for Post-graduate courses is 10-7-1972 and for Under-graduate courses is 25-7-1972.

WOMEN'S COLLEGE

The Women's College admits students to the following Courses according to merit and subject to availability of seats.

A. (i) B.A. & B.Sc. Pt. I open to candidates who have passed P.U.C. or Higher Secondary or equivalent examination in Arts/Science. English is compulsory in B.Sc. Pt. I.

(ii) B.A. & B.Sc. Pt. II (Pass and Honours) open to candidates who have passed I.A./I.Sc. or equivalent examination.

Minimum eligibility for admission to Hons. Courses is 48% marks in aggregate and 50—in the subject concerned.

English is compulsory for B.Sc. (Hons.) Course.

B. Limited provision of buses for day scholars exists. Limited accommodation available within the College premises for non-local students, according to merit on the discretion of the authorities. Admission forms on payment of Rs. 1.50 can be obtained from the office of the Principal.

Last date for issue and receipt of applications for admission to Science Courses is 30th June, 1972. I.P.O. or M.O. for forms will be accepted upto 22-6-1972 only.

The last date for submission of admission forms for Arts Courses is 15th July, 1972.

M. S. UNIVERSITY, BARODA**NOTIFICATION No. 7**

Applications are invited for the post of Deputy Registrar in this University in the prescribed application form on or before 15th July, 1972 which can be had from this office on pre-payments of crossed postal order of Rs. 8-50 payable to the Registrar, M. S. University of Baroda, Baroda-2.

Grade : Rs. 850-45-1030-50-1230 plus D.A. H. R. A., benefit of P. F. and Gratuity as per University rules.

Qualifications : Essential : A second class Master's Degree with about eight years' administrative and supervisory experience of various aspects of working of a University or an educational institution of Higher Learning or Research or of Education Department of State Government.

Desirable : A degree or diploma in Public Administration or Law and/or some teaching experience in a University or a College.

Only the most suitable candidates will be called for interview—

K. A. Amin

University Registrar

M. S. University of Baroda,
Baroda 8th June, 1972.

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So we fly there oh so often!

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a capital town where you can
laze in the park, star gaze,
window shop, theatre, ballet,
avant-garde movies.

AIR-INDIA

the airline that offers so much
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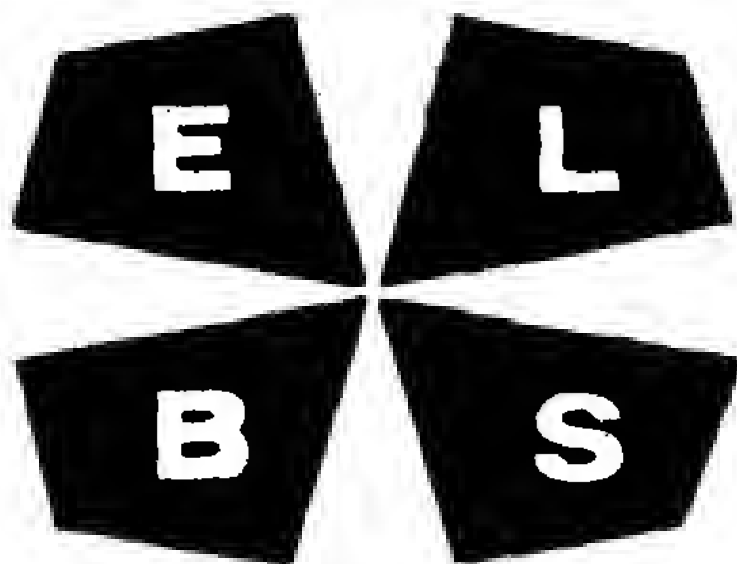
Editor : W. D. MIRANSHAH (Telephone : 276602)

Kerala Crisis College

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The following new titles have just been published in the ELBS edition. They are all prescribed or recommended at the college and university level in the standard edition :—

BELL, P R and WOODCOCK, C L F The Diversity of Green Plants Arnold	Rs. 25 (£1.25)	HOWARD, L R Auditing Macdonald	Rs. 5 (£0.25)
BOADI, L., GRIEVE, D and NWANKWO, B Grammatical Structure and its Teaching Glan	Rs. 15 (£0.75)	JENNINGS, SIR IYOR The Law of the Constitution ULP	Rs. 7 (£0.35)
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CLARK, C The Economics of Irrigation Pergamon	Rs. 19 (£0.95)	JUPP, T C and MILNE, J English Sentence Structure Heinemann Educational	Rs. 6 (£0.30)
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HINDMARSH, J Electrical Machines and their Applications Pergamon	Rs. 29 (£1.45)	STREETEN, P P and LIPTON, M The Crisis of Indian Planning OUP	Rs. 25 (£1.25)

If you have any difficulty in obtaining these titles please write to the Books Officer, The British Council, C-25 South Extension Part II, New Delhi-49, quoting the reference UNAUG. Copies of Complete Subject Check List may be obtained, free of charge, from this address or from any of the British Council Libraries of India.

UNIVERSITY NEWS

A Chronicle of Higher Edn. & Research

- * *The Cover — a tug-of-war between the private management and the State Government.*
- * *NEWS (Page 5 to page 14)*
- * *Fear of Fall in Standards in Kerala's Higher Education (Page 15)—by Dr. P. C. Thomas, formerly a UNESCO Educational Economist*
- * *Library Education — a view point (Page 16) by N. Malathi*
- * *The Cover story (Pages 18 & 19) By W. D. Miranshah*
- * *The Questions That Baffle the Youth (Page 20) By Dr. I. R. Sharma, Punjabi University*

Published every month by the Inter-University Board of India & Ceylon, Rouse Avenue, New Delhi-1.

Editor : W. D. Miranshah

Beside Kerala...

How one views the controversy with regard to colleges in Kerala depends upon one's sympathies. If one is sympathetic to private managements the State Government looks wicked and overbearing. But if one feels outraged at the excesses committed by private managements nothing looks more convincing than that their powers should be curbed.

To find a solution in these circumstances, particularly when political passions have been aroused on both sides, appears to be difficult, and no solution is recommended here. But this controversy has brought into sharp focus two issues which need to be analysed and elucidated in some detail. One relates to the general question of the costs on higher education and in what proportion they ought to be met by the parents and the State. Traditionally, higher education has been uncommonly cheap in India. There are other countries in the world where the same system is followed. Owing to two inter-connected reasons however the situation is becoming more and more untenable in India. On the one hand, the rate of growth of national income is not so satisfactory as to permit the country to divert more and more funds towards higher education without at the same time hurting other sectors of education. Most expansion at the tertiary level is therefore being accomplished at the cost of the primary and secondary sectors. Not only is this socially unjust, it is also beginning to hurt the country economically. On the other hand, the annual rate of growth of student population at the tertiary level during the last decade or so has been of the order of 12-13%. This means greater pressure on educational finance. The problem therefore has to be reviewed from more than one point of view.

The second issue has been posed rather sharply relates to the mechanism of control over colleges. The academic standards are laid down by the university but the grants are given by the State Government. Quite often there is no coordination between the two agencies. This absence of coordination has been noticed by several students of Indian education but no concrete steps have so far been taken to ensure proper coordination.

Is it too much to hope that after the Kerala crisis has been resolved some thought will be given to these two problems?

—Amrik Singh

ACADEMIC STAFF TIME:

Excerpts from An Enquiry Report By U. K. V.C.s' Committee

"This enquiry, undertaken by the Committee of Vice Chancellors and Principals on behalf of all the universities in the United Kingdom, arose from the convergence of a number of requests for information. Those concerned with national research policy were anxious to know what proportion of university expenditure should be regarded as relating to research. Much of this expenditure is on a share of the time of university staff. It was always clear to us that no precise figure for research expenditure could be obtained, for reasons which are explained below; but it is proper that there should be an interest in the distribution and the changes through time in university research and no one could remain satisfied with the crude assumption that half the time of staff is spent on this function.

"The University Grants Committee also has a legitimate interest in the use of staff time, in order that they may gain a fuller understanding of the relative costs of undergraduate and graduate work, and of different subject-groups, in the different universities. For a period that Committee had an enquiry of its own; but this was based on a retrospective impression of the division of time, and the Vice-Chancellors' Committee considered it to be an unsatisfactory basis for conclusions which might be used in the formulation of policy. We were therefore glad that the University Grants Committee, in return for a promise that we would conduct a sample enquiry of the present kind every five years, agreed to withdraw its own enquiry.

"We also became aware that a number of individual universities would welcome information about the way in which the time of their own staff was being used, and about the divergence from national

averages, in order to help in their own policy-making. This is not because of a desire to get more work from academic staff—who, as the survey shows, work longer hours than are now usual in industry, commerce or public service—nor is it because of a belief that there is something wrong in differing from the national average. The diversity of the British university system is one of its points of strength. However, each university faces the problem of fulfilling its purposes as well as it can with limited resources. Information, such as is contained in this report, can help universities to use their staff and the better fulfilment of their chosen purposes.

NOTE BOOK

"We have not attempted to reproduce in this general report all the results of the analysis in the detailed form in which they have been sent to individual universities and the University Grants Committee. To do so would in any case have required a very much larger volume. But the basic results are set out in the pages which follow, together with appendices setting out at some length the character of the enquiry and the techniques adopted.

"It is proper that the figures should be able to stand up to reasonable examination, and the first obvious question to be raised is the possibility of sampling error. In practice a most valuable check against 'rogue' results was that eleven universities chose to address the enquiry not just to a sample but to all members of staff. A second possibility is that the use of time of those who did not respond to the enquiry was systematically different from that of those who did. But the response rate was

high for a survey of this kind, the non-respondents were not significantly different in grade or subject distribution and there is no obvious difference between those universities which got a very high response rate and those with a below average response. Thirdly, it might be argued that in some systematic way the respondents gave false answers to the questions (which asked them to assign a principal use to each half hour of the day). It is scarcely likely that members of staff in significant numbers deliberately fudged the answers in order to suggest that they were doing more teaching, or more research—whichever they felt to be the more prestigious activity. There could be an error due to some general misunderstanding of the definitions of the categories to which time was to be assigned; but we have received no evidence of any such widespread misunderstanding.

"Though we feel a reasonable degree of confidence in the results here presented, we are also confirmed in our belief that there can be no clear division between teaching and research activities. For example, background reading, to enable a lecturer to keep up with his subject, is very often undertaken without knowing whether it will ultimately contribute predominantly to teaching or research or to both equally. Similarly, time spent on general administration and committee work may contribute to both teaching and research—such as time spent on committees to appoint new members of staff who undertake both functions. All such activities fell under the head 'unallocable internal time' in our diary. It may be convenient to spread the 'unallocable time' pro rata over the other 'internal' items, but there is no special rightness in so doing. Similarly, the distinction between 'graduate research' and 'personal research' is an uncertain one, particularly in science and technology, where personal research is often carried out with the help of graduate students who simultaneously receive their research training."

Andhra initiates a new pattern of undergraduate courses

The Director of Higher Education, Mr. M. V. Rajagopal disclosed at a meeting of citizens that a new pattern of intermediate studies would soon be introduced in Andhra colleges. Instruction will be of two types—one for continuing education leading to the degree and the other, a job-oriented course ending at intermediate itself.

The new pattern is likely to insist that the job-oriented intermediate course would last for three years and the degree-oriented for two. The first year of the intermediate course would be common to all; and, at the end of it, a student would be asked to indicate his choice.

He announced that one junior college which would be developed into a job-oriented college has been sanctioned for Vijayawada.

Birla Institute Professor appointed member of Commission on the History of Mathematics.

A Birla Institute of Technology Professor, Dr. R. C. Gupta, has been named a member of the International Scientific Body called Commission on the History of Mathematics.

The Commission is part of the Division of History of Sciences (DHS) of the International Union for the History and Philosophy of Sciences (IUHPS). Its formation was accepted at the General Assembly of D. H. S. on 23rd August, 1971 at the XIIIth International Congress of History of Science in Moscow.

About 30 countries are represented on the Commission which has a Canadian Chairman, (Prof. Kenneth O. May); its Vice Chairman is a Russian (Mr. S. S. Demidov); and its Secretary is a Parisian (Mr. P. Dugac).

Dr. Gupta, who will represent India on the Commission, has

Teachers' Federation Drafting a National Policy on Education

At its sitting in Agra on July 10, the Executive Committee of the All India Federation of University and College Teachers Organisations announced that it would draft a national policy on education for the year 1973-74 and submit it to the Government.

Another important announce-

ment made on behalf of the Committee by Prof. Amiya Das Gupta, its Joint Secretary, was planning countrywide demonstrations this September to project their charter of demands: a uniform grade of Rs. 550 to Rs. 1800 and majority representation of elected teachers and colleges on university bodies.

Punjab University Senate Agenda talks of radical examination reforms

In line with a grave concern, expressed by the university authorities about copying and other unfair means in examinations, the Senate will be hearing the matter on July 16, according to the Registrar, Mr. Jagjit Singh. Some 10% of 250 examination-centres of the university set up in Chandigarh, Punjab and Haryana were suspected to have indulged in such practices in this year's examinations. And "the thorough study" of answer papers of these centres was also in progress. The university have had to disqualify 200 students of the Gobana Centre in Haryana last year. The number of assaults on examiners was lower this year than in the previous—only three or four incidents were reported.

Results, too, were declared on previously announced dates, unlike last year, in spite of the fact that examinations were postponed for at least a week this year because of the Indo-Pakistan war.

carried out activities of the Commission since the early months of this year. Besides, he will be contributing a portion to the proposed book, "History of Mathematics In India,"

Will Kalyani become an Agricultural University?

Teachers and students of arts and science faculties of Kalyani University marched on July 8 to Calcutta by suspending their academic activities indefinitely.

The Education Minister, was asked that the interest of the two faculties must not be sacrificed and that, therefore, the university should not become agricultural. The demonstrators were not contented even with this; they wanted the Education Minister, Prof. M. Banerjee, to come out at the scene of demonstration near the Raj Bhavan and declare that he would not do any such thing

The other demand of the demonstrators was that the Kalyani University should not be tagged with the Department of Agriculture.

On the other hand two students—Mr. Pankaj Das, Secretary Agriculture Faculty Student Union of K. U. and Mr. Sujit K. Dey, Secretary, Bengal Veterinary College Students Union—hailed the decision of the State Govt. to transfer the Research farms to Kalyani University which was well for the university if it became a full-fledged agricultural university.

Course On Human Rights In Administration of Criminal Justice

Judges, public prosecutors, police officials, barristers and other jurists from 37 African and Asian countries will participate in a United Nations training course on "Human Rights in the Administration of Criminal Justice," in Fuchu, Tokyo, Japan, from 14 August to 13 September.

The course is designed to familiarize these senior and experienced criminal law officials with relevant legislative and administrative procedures in Japan and elsewhere as they affect human rights, and to provide an opportunity for the exchange of views on the law and practice relating to criminal procedures in the Asian and Far East and African regions.

It is being organized under the United Nations programme of Advisory Services in the field of human rights, in co-operation with the Government of Japan. It will be held at the United Nations Asia and the Far East Institute for the Prevention of Crime and Treatment of Offenders (UNAFEI).

The training course will be the third in a series organized in pursuance of a recommendation of the United Nations Commission on Human Rights which urged the inclusion of such a course in the annual programme of Human Rights Advisory Services provided by the United Nations. The first in the series was held in Japan in 1967, and the second in Poland in 1968.

Corrigendum

In the Summary of Dr. S. Ramamurty's talk, reported in the July issue of *University News*, the words "Neutral-decays" (Col. 1; line 33rd) should read "Neutral Kaon decays"; "practice" (Col. 2, line 1) should read "particle" and "Our knowledge" in place of "Over knowledge".

The errors are regretted.

—Editor

"Education by itself does not necessarily lead to a conversation of minds towards peaceful purposes."

—Jawaharlal Nehru

Allahabad High Court quashes U.P. order appointing College Controller

July 7 :

Allahabad High Court yesterday threw out the U. P. Govt. order appointing an authorised controller for the Arya Kanya Inter College, Jhansi, with this observation : "It is a serious interference with the right of the managing committee." The Judgement was delivered by Mr. Justice J. C. Mathur, who also allowed partly the writ petition filed by the Managing Committee of the said college, adding that, since the order had been passed without giving the management an opportunity of being heard, it must be set aside. The judge added that nowhere was it shown in the order that the management had been consulted : all that the impugned order had stated was that the State Govt was satisfied with the report made by the Director of Education that there was mismanagement. He also observed that the order had been passed in violation of the principles of natural justice."

Aligarh Professor To Chair IGU Conference

Aligarh 31 July :

A Seven-day Conference of the International Geographical Union is going to be held at the University of Waterloo, Ontario (Canada) from August 2 this year.

The Union has invited an Indian scholar of international repute, Professor Mohammad Shafi of Aligarh, to preside over the session of the International Commission on Applied Geography.

Professor Shafi, who is the Head of the department of Geography and Director of Academic Programmes in the Aligarh Muslim University, will present his paper on "the development of Applied Geography in India".

He will also attend the 22nd International Geographical Congress at Montreal as a member of the National delegation of the Government of India. His paper at the Congress will relate to the productivity regions of India.

Three Universities Waive off Migration

JULY 15, 1972—The Registrars of the Panjab, Panjabi and Guru Nanak Universities who met here recently took the following decisions:

"That the candidates placed in compartment of Panjab, Panjabi and Guru Nanak Universities may seek migration to any of the other two Universities and allowed provisional admission, to the next higher class in any of the colleges affiliated to the other two Universities provided that :—the migrating candidate shall be allowed to clear the compartment subject with parent University in the next two consecutive chances, failing which he shall be reverted to the lower class; (ii) The admission to the next higher class of the University to which he has migrated will be confirmed only after he has cleared the compartment subject within two admissible chances.

The Summer Youth Camp organised by the Gandhi Peace Foundation, New Delhi in collaboration with the National Service Scheme, the Voluntary Action Cell and other agencies was held with effect from 7-6-1972 to 22-6-1972 at Jora in the Morena district of Madhya Pradesh.

Twelve colleges of Madhya Pradesh, one of Uttar Pradesh, 11 colleges from Delhi and one batch from the Birla Institute of Technology, Pilani participated in it. Five girls also participated in the camp. They stayed at the Panchayat Bhavan attached to the camp site, adjacent to the Gandhi Ashram. Facilities were provided by the District Collector and the Superintendent of Police.

The camp was inaugurated by Swami Krishnanand, Vice President of the Chambal Peace Mission on 7th June 1972. The campers woke up at 4-45 a.m. and went to bed at 10-30 p.m.

Work Project ;

The morning hours were devoted for the work project which consisted of digging drainage to drain off the extra water that stagnated on the sides of the chambal canal. The work of this project started at 5-30 a.m. and lasted up to 9 a.m. with half an hour break. The students showed keen interest in spite of the hot weather. Second 16 villages, inhabited by the families of the surrendering dacoits and the victims, were selected. Arrangements were made for the board and lodging of campers in each village. This provided them the opportunity to go into the community and also to bring the community in. The students heard the grievances and visited the homes of the surrendering dacoits. They outlined the following three programmes, namely :-

- (a) Gram Sabha : to be held once in a month for solving the problems by consultation
- (b) Shanti Sena : to take up constructive work during peace
- (c) Shanti Patra : to maintain a

Gandhi Peace Foundation Organises Summer Youth Camp at Jora (Morena)

pot in the houses in which handful of grains was to be poured in even by the smallest child. The grain was to be used for Peace Brigade Organisation.

The above programme has started in some villages and the Ashram will keep in touch with them. Apart from above, a road was repaired at Jabraul which used to damage bullock carts. At Gota the students got the villagers agreed to build six mile road connecting the Morena-Vijayapur road. Each house in the village agreed to lift 5 bullock cart loads boulders from the river bed to the roadside.

Lectures and discussions

Two hours in the afternoon were utilised for lectures and discussions. The subjects of the lectures were camp life, background and perspectives of dacoit surrender, Shramdan project (Drainage scheme) dacoit problem (the police view) employment to millions, NSS programme and camp impressions.

Games

An hour for games was provided in the evening. The campers learnt by practice a few inexpensive games which involved mass participation. The games attracted the village young folk and children who also participated in them

A unique feature was the evening prayer which consisted recitation from the selected passages from scriptures of Buddhism, Hinduism, Islam, Zoroastrianism, Christianity, Sikhism and Jainism. This was followed by the Bhajans and Dhuns. Local participation was encouraging.

The camp closed on 22nd June 1972. Shri Kashinath Trivedi, a known Gandhian author and a former Education Minister gave the valedictory address on 21st

June 1972. The guests present included Shri Mahavir Singh, Secretary of the Mission, Shri R. C. Naval, Office Secretary of the Mission, Shri Jawahar Lal Jain and Shri Bhavani Prasad of Rajasthan.

Salient features

1. The camp provided opportunity to the students to go into the community and to bring the community in.
2. It made them to realise the importance of manual work.
3. The students learned to share the responsibility as much of the burden of the camp was shouldered by the students in groups by undertaking the work of sanitation, filling water, kitchen work, serving food and night and day watch.
4. It provided them an opportunity to learn discipline voluntarily. Except a minor incident no incident took place which may show indiscipline on the part of the students.

Soviet Academy Invites Scientists From Hebrew University

Two Hebrew University botanists, Profs. Michael Evenari and Naphtali Tadmor, have been invited by the Soviet Academy of Sciences to participate in a symposium this month.

The symposium on "Ecophysiological basis for developing arid zones," will be held in Leningrad and in Dushambe, near the Afghanistan border. Following the scientific sessions, the two Israelis will be given an opportunity to visit the Russian desert.

Profs. Evenari and Tadmor are known for their research on desert farming using ancient run-off irrigation methods in combination with modern technology.

8-Century Copper Plate Discovered By Milagres College Principal

Dr. P. Gururaja Bhatt, Principal, Milagres College, Kallianpur has brought to light the presence of an important copper plate assignable to the 8th Century A.D. and belonging to the early Alupa Dynasty of Tulu Nadu (South Kanara) in the temple of Sri Durga Parameshwari, Belmannu, Karkala Taluk, S. Kanara. Dr. Bhatt says that this copper plate document becomes the earliest to be known of its kind in the district, and also in Karnataka in regard to copper plate in the Kannada language. Hitherto no

copper plate inscription earlier than the 14th Century A.D. has been brought to knowledge in the District. Moreover, no copper plate inscription of the Alupas has hitherto been brought to light in the District.

Dr. Bhatt is of the opinion that this copper plate which was brought to his knowledge by Sri Madhvaraya Bhatt, the Managing Trustee of the Temple is of great significance from the historical stand point of Tulu Nadu in particular and of Karnataka in general.

1. The Copper plate is in the book form consisting of 5 sheets (plates) strung together by a ring with the seal (emblem) of the Alupas (two fish). The sheets are arranged from right to left and the engraving is found on the 7 sides of four sheets.

2. The epigraph is beautifully engraved in Kannada Characters assignable to the 8th Century A.D. while, some of the letters e.g., vi kha, la etc., bear very early form i.e., of the 4th—5th Century A.D.

3. The epigraph consists



Eight century Alupa copper plate from Belmannu Durga Parameshwari Temple

three parts, namely, the royal names of the donors of the grant, nature of the grant and imprecation.

4. The digest of the grant is as follows :

Srimat Aluvarasa whose family was said to be protested by Brahma (Pitamaha), along with

Sri Ereyyapparasa made a grant to Belmannu sabha—free from tax to be paid to Sivavalli, on the day of solar eclipse. This grant was made in the administrative subdivision of Manideva of Kantapura (Kantavara) and the document was prepared in the presence of Chokkapadi Bhatta. The grant was to be protected by Boygavarma

of Kapu, Nanda of Bela (Bola), Nanda of Kolunuru (Kodandur), Medini of Santoru (Santuru) and Uarappana who would be the recipients of innumerable boons etc. for their work of protection.

In the imprecatory part of the document, it is said that those who destroyed the grant would be con-

Dr. P. Gururaja Bhatt holds a Ph. D. in Progressive History

signed to the 21 kinds of hell and would suffer in a number of dreadful ways (details enumerated).

The presiding diety of Belmannu is referred to an Vindhyavasini adored by great saints. The epigraph ends in reference to Panda Kulas which would prosper with this grant.

Historical inferences

Aluvarasa referred to in this epigraph may be accepted as Aluvarasa II who seemed to have reigned over Aluvakheda (Tulunadu) between A.D. 730 and A.D. 750. Although he was subordinate to the Chalukyas of Badami, the absence of the mention of the suzerain in this document is significant. It would mean either Aluvarasa was practically independent or recalcitrant. Eveyyapparasa mentioned in this epigraph was none other than the second son of Sripurusha the Ganga King. There may either have been blood relationship between the Alupas and the Gangas or friendly political alliances between them. This is a very significant historical fact revealed by this inscription. The various places come across in this epigraph seem to have considerable importance in local administration. Sivavalli (Sivalli), present Udupi is spoken of as of great sanctity perhaps as important as Varanasi (Banaras). The mention of the Woman chief of Santuru is interesting. Could it mean reference to matriarchate?

Reference to the diety of the place, Belmannu, as Vindhyavasini is really very informative, for it is beyond doubt that the temple of Durgadevi existed as far back as the 8th Century A.D. Dr. Bhatt recalls the ascription of the date circa 8th 9th Century A.D., to the Mahishamardini icon of this temple based on iconographic study as far back as 1969 when his Antiquities of South Kanara saw the light of the day.

Another important information revealed in this epigraph, Dr. Bhatt says, is the possibility of the Alupas belonging to the Pandya kulas. Amongst the Pandyas there must have been a number of

families. This fact is corroborated by the Shiggoan plates dated A.D. 707 edited by Dr. G. S. Gai, Chief Epigraphist, Government of India.

Dr. Bhatt also is of the opinion that the study of the full text of this epigraph may be of considerable value from the linguistic point of view. Since the epigraph begins with reference to Lord Siva, it is beyond doubt now that the Alupas were the worshippers of Lord Siva. The presence of the two fish on the seal is the indisputable proof of fish being that state emblem of the Alupas. It may be recalled here that Dr. Bhatt has excavated a 6 feet high stone bearing an Alupa epigraph of the 9th Century A. D. at Udayapura (Udyavara) last year on which are engraved two fish at the top. This may be considered, according to Dr. Bhatt as the only stone epigraph bearing the Alupa symbol. The new Alupa copper plate now discovered and deciphered is the first of its kind to bear the Alupa symbol.

Dr. Bhatt is grateful to Sri Madhvaraya Bhatt for having preserved this copper plate which was found out by him in 1942 kept in a stone casket buried under the north part of the prakara of the temple. When the temple was renovated, it was discovered by him and ever since then it was safely preserved. Sri Durga Parameshwari temple, Belmannu is situated on a hill top of immense scenic beauty and it has claims to be regarded as one of the earliest temples of Karnataka. The temple has a good record of spiritual existence under the able leadership of Sri Madhvaraya Bhatt.

NINE MILLION BOOKS PRINTED IN ISRAEL IN 1970-71

A total of 9,000,000 copies of books was printed in Israel during the 1970-71 fiscal year—600,000 more than in the previous year. This emerges from a survey by the Publishing Department of the Central Bureau of Statistics.

A total of 1,890 new books was

printed that year, compared to 2,080 the year before. The number of reprints, however, increased: 1,450 books were printed, compared to 1,021 in 1969-70. This figure incorporates an increase of 1,000,000 in reprint copies and a decrease of 4,000,000 in new books.

NOW A SOIL MUSEUM AT PAU

A Soil Museum is being set up in the Punjab Agricultural University for the education of the visiting scientists and farmers.

The Museum will have some blocks of representative soils, a soil map of the Punjab and specimens of its rocks and minerals. Among other things, models showing reclamation of saline alkali soils and methods of water conservation and root patterns of different crops will be displayed. It will also have maps showing the soil fertility of different districts, their fertilizer consumption compared to their actual needs.

NSO SCHOLARSHIPS FOR 1972-73.

Last date for receiving applications on the prescribed proforma, in the office of the Inter University Board for N. S. O. Scholarships (fresh as well as renewal) for the academic session 1972-73 has been fixed as 31st August, 1972. Printed application forms have been circulated to the Member Universities. Those desiring to apply may, therefore, contact the Sports Officers of their respective universities for application forms and other details.

The scholarships are available only for the bonafide students of the Member Universities subject to other terms and conditions laid down in this behalf. No application shall be entertained unless sent on the prescribed proforma and through the university concerned.

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CAMPUS NEWS

Osmania discards hood; introduces simple white

The Annual Convocation of Osmania University, which was held on July 1, 1972, wore a new look: the traditional academic robes and ceremonial procession were discarded and a simple white dress and badges were introduced in their place.

The convocation was new in another sense in that for the first time the convocation was restricted to candidates admitted to the post-graduate and Ph. D. degrees.

Delivering the Convocation Address, Dr. S. Bhagavantam, Honorary Professor, Indian Institute of Science, Bangalore, and a

former Vice-Chancellor of Osmania University, asked the students to develop character.

"During the past hundred and odd years, we have borrowed many things from others. We have borrowed technology, we have borrowed experts, we have borrowed money and we have borrowed ideas. We cannot borrow character. This is something which should exist in our traditions and in our blood, sprout, grow and derive its nourishment in our soil," he said.

The Vice-Chancellor, Mr. N. Narotham Reddy, in his report,

reviewed the progress the University had made during the year. Five more colleges were granted affiliation by the University bringing the total number of colleges to 91—sixteen University and constituent colleges and the rest affiliated.

The number of graduates who received their degrees at the Convocation was 6,462 at the First Degree level and 1,115 at the post-graduate level in the non-professional faculties. As for the professional faculties, those who have admitted to the First Degree were 2,051 and to the post-graduate degree 233.

Kurukshetra to Establish Computer Centre soon

The Haryana Government has sanctioned Rs. 20 Lakhs to the Kurukshetra University for purchasing a Medium Fast Electro-Computer, other accessories and a building for the Computer Centre to be established at the Department of Mathematics. There being no other Electronic Computer in the whole of Haryana, it will fulfill long-felt needs of the Science, Engineering and other departments.

The University is also taking steps to obtain necessary foreign exchange for the purchase of this Computer, which is expected to be installed in the summer of next year. The University has started a Post-graduate Diploma Course in Numerical Analysis and Automatic Computing from July 1972. The objective of the course is to train students in the use of Electronic Computer. They will be given enough grounding in the mathematics of electronic computing, and will learn how to write programmes for use on computers.

M. A. in Pakistan Studies

The University has decided to introduce "Pakistan Studies"—a specialised group of two papers in M. A. (Political Science) from the next academic session. The study of Pakistan Politics and Foreign Policy has assumed a great importance recently. Since Pakistan is our next-door neighbour and has been a source of trouble for the last 25 years, a careful study of the Political Sociology, Political Culture, the Government and Politics of Pakistan and its Foreign Policy is considered essential.

The University is also going to start a two-year diploma course in Urdu, and one-year diploma course in German and Master in Business Administration in the Department of Commerce.

New Library Building

Dr. S. K. Dutta, the Vice-Chancellor, performed the opening ceremony of the new library building of the University on 18 July, 1972. The library building has been recently completed at a cost of Rs. 15 lakhs. It has 33,000 sq. ft. covered area on three floors. The library has an

air-conditioned research room, where 60 seats have been provided. A special feature of this building is that readers and books have been brought as close as possible to facilitate a vigorous use of reading materials. The new building has two dark rooms meant for microfilm readers and five rooms for team research projects of Departments.

SVU College Celebrates 150th Birthday of Mendel

Under the Presidentship of Prof. M.V. Rama Sarma, Principal of University College, the 150th Birthday Celebrations of Gregor Mendel was celebrated by the department of Zoology at S. V. University on 22-7-1972.

Prof. G. Krishnan, Professor & Head of the Department of Zoology, welcomed the gathering.

Before unveiling the portrait of Gregor Mendel, Dr. D. Jaganatha Reddy thanked the U.G.C., which created an awareness among University scholars and fostered an interest in a review of Mendel's contributions to life sciences.

SVU Hosts Six-Day NCERT Workshop

A six-day Workshop on Population sponsored by the National Council of Educational Research & Training under the auspices of Sri Venkateswara University was inaugurated by Sri. V. Ramachandran, M. A., Director of Public Instruction, Andhra Pradesh, on 20th July 1972.

Over 25 participants attended the Workshop. The Workshop started with a welcome by Dr. R. Srinivasa Rao, Director of the Workshop and Head of the Dept. of Education.

In his inaugural address, Sri Ramachandran, emphasised the need to introduce Population Education at the Secondary level and stressed the need of implementing the recommendations of the Conference previously held. The D.P.I. said that it was imperative to give in-service training to working teachers besides pre-service training to those who want to become teachers.

While presiding over the Workshop, Dr. D. J. Reddy, Vice-Chancellor, praised the D.P.I. for his leadership to introduce Population Education in School curriculum in order to educate the youth in population dynamics and to create an awareness of the magnitude of the problem.

Speaking on school curriculum Dr. Reddy, said, "The school curriculum is continuously changing and is not static to meet the challenges of the changing patterns of society. To this NCERT has brought forth a syllabus on Population Education at the Primary and Secondary levels and also a core curriculum to the teacher educators and teacher trainees and the latter in particular to those who specialised in social studies.

Further he said that a teacher was a priest of the community, which could no longer disown responsibility, and that he ought to become an agent of change.

On the need of limiting the family size, Dr. Reddy said: "The adolescent youth between 12 to 16 age group develops desires and fears and lacks basic knowledge on body and growth, sex, reproduction, marriage and family life. All these need be given at the school through subjects like Eco-

nomics, Geography and Biology so that he becomes aware of the complex problems of society and its development. He suggested the extension of sex education to campus. Dr. Reddy stressed the need to set up an instructional unit for secondary school students and also population instructional materials project. A strategy for Population Education through mass media be evolved.

Lastly he cautioned how the

population explosion is rapid and alarming when compared to 1920. Pre-service and inservice training in Population Education is a must for the teacher trainee and teacher in service and it should begin without delay. School education should be geared towards national goals and needs.

Dr. R. C. Sexena, NCERT Participant, proposed a vote of thanks.



Sri. V. Ramachandran, Director of Public Instruction, Andhra Pradesh, inaugurating the Workshop. To his left is Dr. D. Jaganatha Reddy, Vice Chancellor, S. V. University.

(Contd. from page 10)

Dr. Reddy stressed that this should serve as a stimulus to students of Biology for original investigations on the applied aspects of Biology for creating better living conditions.

Speaking on salient traits of Mendel, Dr. Reddy pointed out that original contribution in plant hybridisation had yielded rich benefits by way of improved varieties of wheat, rice etc. which are high yielding; a number of im-

proved qualities in growth and yield are made possible only because of Mendel's observations.

Recapitulating the contributions made by giants in science like Robert Hooke, Lenen Koek, Bernard, Lister and several others who toiled ceaselessly night and day with primitive equipment and gave much to mankind, the speaker reflected that all these will remind us of the task of living up to the glorious percepts of past scientific investigations.

PUNJAB UNIVERSITY

STREAMLINES EXAMINATIONS

Reported by Mr. R. K. Mathotra

The organisation of examinations by a teaching and affiliating university on a vast scale through a centralised system, indeed, presents a number of problems. Some 2 lakh students took various examinations of this University in Punjab, Haryana and Chandigarh in April/May this year. About 2,100 persons were appointed on the supervisory staff at nearly 300 examination centres.

The Vice-Chancellor, Mr. Suraj Bhan, appointed various committees, which included Presidents, Secretaries of Principals' and Teachers' Associations in Punjab and Haryana of both Government and non-Government colleges as also some distinguished educationists.

These committees deliberated on various aspects of the problem and made certain recommendations to the Syndicate of the University, which, after its approval, were put into practice from last year.

In a paper entitled, "Unfair Means—The Climax and Denouement" presented by the Registrar, Mr. Jagjit Singh—at a seminar organized by the Inter-University Board of India and Ceylon, he made a lucid analysis of the problems involved and suggested a pragmatic approach to examinations.

The Punjab University has insured its supervisory staff at various examination centres for Rs. 10,000/- each with the Life Insurance Corporation of India. Apart from infusing a sense of security among the invigilating staff, the rates of payment were also increased to attract better personnel.

The Principal was made the over-all incharge for conducting examinations and maintenance of discipline outside the examination with the responsibility of conducting examinations. At places, where there were more than one

centre, the Superintendent was appointed from the same institution and supervisory staff was appointed on 50 : 50 basis, i. e., 50% from the college concerned 50% from other institutions.

Local committees, consisting of district authorities, Principals and representatives of citizens of the place, were appointed to look after the day-to-day problems with a view to ensuring the smooth running of the centre.

The unfair means cases, if any, were to be reported by the Superintendent of the centre direct to the University office and not through the Principal of the college as was done earlier.

The maximum strength of examinees at a particular centre must not exceed 250 and the strength of the supervisory staff was determined as one Assistant Superintendent for every forty candidates.

In addition to normal inspection of centres by senior teachers, flying squads were also organized to check-mate the incidence of unfair means at notorious centres.

The University has also streamlined its office branches, which deal with the conduct of examinations. For example, both the examination scheduled is notified and question papers printed well in advance. Answer-books are despatched in time and secrecy maintained.

"Take several thousand students and force them to attend lectures in a hall that holds a hundred. Tell them that if they pass their examinations, there will be no jobs for them. Surround them with a society that does not practise what it preaches and is run by political parties that do not represent student ideas. Tell them to think what is wrong with society and how to put it right. As soon as they become actively interested in the subject, send in the police to beat them up. Then stand well clear of the bang and affect an attitude of confused surprise."

—Dr. Macolen Adistes see text

quoted by Prof. H. R. Justin in Youth Power Higher Education

"India A Living Museum"

—Dr. Meenakshisundaram

to the All-India Dravidian

Conference at SVU

"The help of linguistics," observed Mr. K. K. Shah, "will be quite welcome in our language teaching programmes of translation of texts from one language to another". He spoke these words, as he inaugurated the 2nd All India Conference of Dravidian Linguistics at the Sri Venkateswara University at Tirupati. Dr. T. P. Meenakshisundaram, former Vice-Chancellor of Madurai University was in the chair.

Dr. Meenakshisundaram mentioned, in the course of presidential address, that India was a living museum of all languages. Linguistics study could develop naturally and effectively in India. He felt that there was need for providing funds for publishing the materials and works of the various institutions and research scholars.

On the other hand, the Vice-Chancellor, Dr. D. J. Reddy said that there were 4000 languages in the world, 199 being in India alone. Of the 72 universities in India, only 13 had linguistics departments. He urged the need for a greater number of language laboratories in the country.

Course in Municipal Administration at Osmania

The month-long fifth orientation course in municipal administration, conducted by the Regional Centre for Training and Research in Municipal Administration, Department of Public Administration, Osmania University, concluded on July 17.

Delivering the Valedictory address, the Vice-Chancellor, Mr. N. Narotham Reddy, revealed that the Government of India was planning to help, in a big way, the municipal administration course in Hyderabad in the Fifth Plan.

During the course, background lectures and workshops in various aspects of municipal administration were conducted. Prof. M. A. Muttalib was the Director of the Regional Centre.

Twenty one candidates from various parts of the country, participated in the course.

V. C. Lays Corner Stone For A New Teachers Colony

In an attempt to provide more facilities to the teaching community on the Campus, the Vice-Chancellor, Mr. N. Narotham Reddy, laid the foundation-stone of a new housing colony at Tarakanaka near the Campus on June 21, 1972.

Estimated to cost Rs. 13 lakhs, to be shared by the University Grants Commission and the Andhra Pradesh Government, the colony will consist of 19 Lecturers' quarters and 11 Readers' quarters.

The housing colony, which will form a separate entity, is expected to be completed by June, 1973.

Kashmir shown as a separate nation

Bangalore, July 7.

Mr. Mallur Ananda Rao (Ind) said in the Mysore Legislative Council to-day that in the Map of India found in the text-book prescribed for tenth standard students by the State Government, the State of Jammu and Kashmir was shown as a separate nation.

He said that this 'grave blunder' found in the text-book had been brought to the notice of the Central

Government by Mr. Sunder Singh Bhandary, a Jan Sangh leader, and the Centre had directed the State Government to ban and seize the text-book.

Despite Centre's instructions, he said, the State Government had not withdrawn the book. Mr. Ananda Rao asked the Government to withdraw the text-book immediately and take stern action against officials who had recommended that the book be prescribed as a text book.



Dr. S. K. Dutta, Vice Chancellor, Kurukshetra University going round the library after performing the opening ceremony.

Visva-Bharati

The Ananda Bazar Patrika group of publications will provide for two scholarships at Visva-Bharati Rabindra Bhavana, to enable scholars to carry out research projects on Gurudeva, in commemoration of the Golden Jubilee of the Bengali daily.

An announcement to this effect was made on May 20 in Calcutta by the Chief Minister, S. J. Siddhartha Sankar Ray at the formal ceremony to celebrate the golden jubilee of the paper at Rabindra Sadan, on behalf of the Ananda Bazar Patrika authorities, Sirimati Indira Gandhi, Acharya of Visva-Bharati was the chief guest of the ceremony.

For higher research the scholarship will be Rs. 750 per mensem. For postgraduate research the scholarship will be worth Rs. 450 a month.

A meeting was held at Kendangal village on May 16 in the afternoon which was attended by all the staff members of the Village Extension Section and the Saha Adhyaksha, Palli Samgathana Vibhaga. Discussion was held regarding the organisation of a village youth club and the programme of welfare activities.

Cultural functions and plays were successfully staged at Ballavpur village under the initiative of the Jyoti Sangha from May 29 to 31. The performances were largely attended by the villagers on all the three nights and these met appreciation from all. Village Extn. Section rendered help and guidance for the purpose.

A drama *Sneher Joy* was staged by the children of Siriniketan and Surul on May 30 at Siriniketan in the evening which was appreciated by all. Stage materials etc. were supplied by the Village Extension Section. A catastrophe was avoided on May 14 by the promptness and initiative of Siri Tapan Kumar Laha, a student of Siksha Sutra when

the stores of Silpa Sadana Extension caught fire at noon. Siriman Tapan immediately informed the inmates of Siriniketan about the outbreak of fire which was promptly put out by the inmates of Siriniketan. We highly appreciate the alertness of Siriman Tapan in this regard.

England to give £ 1,000,000 for a Thailand Institute.

LONDON, July 11—Britain is to provide more than £ 1,000,000 during the next three years to assist the Asian Institute of Technology in Thailand. Of this amount, £600,000 will go towards the running costs of the Institute, in the form of contributions to the faculty and other staff, gifts of equipment and books, and the provision of scholarships. A further £ 400,000 will meet the cost of the engineering and architectural consultancy for the Institute's new campus at Rangsit. In addition, £50,000 is to be made available for transport, agricultural and workshop equipment for the new campus.

Education

It is estimated by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) that in 1969-70 there were 19 million teachers in the world and 475 million students enrolled. The table on educational institutions in the Yearbook gives data for the latest year on the number of teachers and students enrolled in each country by type and level of education.

administration.

The German Foundation, in short, serves as a centre for exchange of experiences on developmental problems. It also provides facilities to foreign invitees for specialised training and prepares German experts for assignments abroad. This enables it to forge an effective partnership between the developed and developing nations.

Foundation for Developing Countries

Some 3,000 experts from the fields of agriculture, social development, education and public administration from Afro-Asian and Latin American countries have so far attended the seminars sponsored by the German Foundation For Developing Countries in West Berlin. The largest contingent, more than 430, came from India. What is this foundation and what is its role?

Set up jointly on the initiative of the parliamentary parties and the German Government in 1959, the Foundation has come to acquire the reputation of a catalyst of socio-economic change in the Third World in a little more than a decade. It acts as a clearing house of modern techniques and has worked tirelessly to enlarge the economic infrastructures of the developing countries. Its Agricultural Development Centre in Feldafing near Munich handles a number of agricultural programmes. The centre mainly promotes international conferences in the light of the Federal Government's development policy vis-à-vis the developing countries. The topic of discussion extend from the breeding of new seed varieties to the extension of nutrition programmes abroad. Its Seminar Centre located in Berlin concerns itself with economic and social development and promotion of public administration. Its Education, Science and Documentation Division is situated in Bonn and the area Orientation Centre in Bad Honnef. With a staff of 350 persons, the Foundation operates an annual budget of 20 million DM.

India, which for long has been associated with the Foundation, has been sending a large number of participants to its various seminars and workshops. These participants come from the fields of agriculture, industry, education and various branches of public
(Cont'd in col. 2)

Fear of fall in standards in Kerala's higher education

Dr. P. C. Thomas, M.A., Ph.D.

Formerly UNESCO Educational Economist

That standards in most Indian Universities have been falling is by now well-recognised. A good deal of thought has been devoted to this subject. The University Grants Commission and *ad hoc* committees appointed by several Universities are among the many bodies which paid attention to the problem of falling standards. We have excellent analyses of the problem and many suggestions for improvement of standards; but no improvement worth mention has been achieved. Perhaps standards are still falling. My present purpose is not to go over the same ground again but to limit the observations to a special situation which has arisen in Kerala.

The crisis in Kerala's higher education is deepening. The developments which have precipitated the crisis are well-known and adequately covered in the press. A few special articles also have appeared on the subject. So far no solution to the problem is in sight; but in the various suggestions made which may eventually lead to a resolving of the problem—however good this in itself may be—there is a danger of academic standards falling. The will of the dominating student political group, the machinations of the politicians, the obduracy of the Government and the University and the pertinacity of the private college managements—all may act and react on each other and eventually a compromise solution may be found. But by then much time will be lost and all the temporary arrangements now proposed, even assuming they are workable, will lead to a deterioration in the quality of education.

Kerala has 104 Arts and Science Colleges owned and administered by private bodies. These are the colleges involved in the crisis (some of these since have re-opened and are now functioning and these in one sense may be said to be out of the crisis).

On May 25th last the University of Kerala issued an order on its affiliating private Arts and Science colleges to reduce their fee tariffs to the level obtaining in similar colleges owned by the Government. The Kerala University Act gives the University the right and power to fix and regulate fees in the affiliating colleges. The University of Calicut, the other University in the State with affiliating colleges and having similar power of fixing fees also passed an order on its colleges.

These orders were passed at the instance of the Government of Kerala at a time chosen by it. The colleges which now remain closed were due to open on various dates in the month of June last for different classes. The initiative in this matter was not even

with the Government. The Government was given a directive by the Ruling Alliance's policy making Liaison Committee which is a purely political body consisting of politicians some of whom are now Ministers. Kerala is at present governed by a Coalition Government consisting of five different political parties—the Congress (R), the Communist Party of India, the Muslim League, the Revolutionary Socialist Party and the Praja Socialist Party. The Liaison Committee is the super cabinet whose directives are virtually, though not constitutionally, mandatory on the Government and consists of the 'bosses' of the five coalitioning parties and all the Ministers with the Chief Minister as Chairman. Kerala's political set up today, in a State which has seen the largest number of Government rise and fall since Independence, it is understandable that compliance with the directives of the Liaison Committee is essential for the survival of the Government.

But it is difficult to see, how the University which has the responsibility of maintaining academic standards has come to contribute to the precipitation of a crisis of this magnitude, involving one lakh and twenty-seven thousand students, about 6,200 teachers and 104 of its affiliating colleges. On receipt of the University's order the private colleges through their representative Executive Association, stated that if the colleges fees were reduced the colleges would be running at a loss and added they were prepared to allow any one to examine their accounts to be satisfied of this. If the fee standardisation were insisted on the college wanted compensatory grants or else they preferred to remain closed. The University fixed a deadline for the reopening of the colleges and most of them refused to reopen and a 'show cause' notice has been served on them threatening them with disciplinary action. Disaffiliation is freely talked about.

Without entering into the controversial matters relating to this question, it is difficult to understand how the University came to act in such haste. It is not beholden to the Ruling Alliance's policymaking Liaison Committee nor is it bound to carry out the behests as such of the Government. There are much more vital matters of an academic character which the University should be interested in. Academic standards and the interests of education in 104—nearly five-sixths of the total—of its affiliating colleges are more important to the University than carrying out the wishes of the Government at a time the latter wanted it. No serious calamity would have occurred if the University, even assuming it wanted to carry out the Government's behests, had made the order effective 1972-73. The colleges would have continued

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Library Education—A point of view

N. Malathi, M.A., M.Lib. Sc

Literature on education for librarianship has nearly inundated the field and one more may not be the last straw. Much has been said about preparing School Librarians, Special Librarians, redrafting the old syllabi, refreshing the Library Science Teachers; and, as a side issue, dovetailing the librarians to Adult Education Programmes. Some were contending for status for librarians and others questioning reasons for discounting librarianship as an honourable profession. A great majority do complain of low pay scales. Probably most of the complaints are traceable to lack of co-ordination between the library science course and other subjects against the common backdrop of total educational set up. If we revert to the various modifications, revisions, improvements, recommended, suggested, implemented or under consideration for educating the future citizen, my point will be all the more clear. One of the major problems that is confronting today's educationists is over-specialisation and lack of general knowledge of the student even in matters that will have bearing on his employment opportunities. While students are agitating for the removal of the General Education paper, the educationists are worried about the means to impart into students that part of curriculum to make them a well-balanced human beings and not human machines chiselled out to work in a minutely narrow circle. I wonder whether a well-thought out educational programme strongly supported by active library programmes such as formation of reading circles, circulating reading lists, conducting meaningful exhibitions of library resources would not yield better results.

Present Position of Librarians :

Though the position of librarians when compared to that in the early parts of the 20th Century, shows some improvement it still stands no comparison to the progress achieved in other fields. The scale of Pay or status recommended by the University Grants Commission (*i.e.*, to be treated on par with teachers) as early as 1965 still remains a matter for implementation in some Institutions and in some not for consideration. A great majority of the educational institutions in the South have not implemented the UGC Scales fully. In some of the Universities where the authorities have given the impression that they were giving the UGC Scales of pay, the grades are not consistent in regard to the subsequent cadres. For instance, one University adopted Professor's scale for the Librarian but fixed the next grade at a starting of Rs. 350/- with no intermediary grade. Worse things could be said of status. At the moment the Librarians seem to have formed a species by themselves belonging neither to fish nor to fowl. Some Universities treat only Librarian and Assistant Librarian on par with teachers—that too only for purposes of Pay scale—and categorise others as Non-

teaching. Again if the Librarian and Assistant Librarians are given the status of teachers, the question of permission to register themselves for Ph. D. arises. Atleast one University refused such permission. Then what are the substantial reasons for refusing such permission? Another question that passes one's comprehension is why the Librarian is not made ex-officio Senate member, while all other Heads of Departments and Institutions are admitted to the Senate.

Employment Potential :

As I have already mentioned earlier, librarianship is strapped to the eradication of illiteracy programmes. A very modest estimate of librarians required in the next ten years as worked out by Sri N.C. Chakravarti set the figures at 24,000 graduates and 25,000 undergraduates for the entire Public Library set up including School Libraries. One would think the employment potential for librarians in India is charming. But the facts belie position. It may be curious to note the sort of reluctance evinced by various managements to employ qualified personnel. In other words ill-qualified or underqualified staff in libraries and employment problem for the graduate librarians are existing side by side in the country. We may trace the reason to failure on the part of working librarians to impress upon managements and thereby the need for insisting on qualified hands.

Second anomaly is the insistence of merit in the academic degree beside the professional degree for senior positions. There is every meaning in asking for rank in the relevant subject field and that is what I suppose is the practice in other fields too. But to insist on distinctions in the academic line inspite of good professional degree may not be just. On the other hand, such criterion for selection narrows down the scope for promotions and appointments. In this connection the recommendations of the University Grants Commission have got to be revised. For instance, according to the present requirements of the University Grants Commission a person having B. A. III Class, M.A. II Class and B. Lib. Sc./D. Lib. Sc. will be preferred to one having M.A. III Class B. Lib. Sc./D. Lib. Sc. I or II Class and M. Lib. Sc. I or II Class. And a close scrutiny of the qualifications will show that the latter will have better knowledge of the subject, he is to deal with.

Training for Librarianship

Against this background of the educational set up, I would like to make a few suggestions for considerations of the stalwarts in the field of Library Science. I need not review here various courses offered by different institutions because earlier issues of Library Science journals contain plenty of information on the

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to function now and every one would have get time to establish facts by an independent and impartial enquiry. Facts regarding the balance sheet position of the colleges remain to be established if the Government and the University are not prepared to accept the plea of loss entered by the colleges. Apparently they don't believe this plea to be honest. Students have already lost six weeks of study and there is no knowing how many more they will lose.

Out of the 104 colleges about 38—mostly intermediate colleges—have reopened. They educate only about one-sixth of the total on the rolls of private colleges and employ about a thousand teachers out of nearly 6,000. It is this vast majority of students who do not know where to turn for education and the teachers who do not know where to work or get their pay from.

The parties to the dispute—the Government, students, teachers, the University and the private college managements—are firm in the various stands they have taken and there is little hope of any immediate solution to the problem.

The Government and the University are taking the following steps to try and put the students in class rooms :—

- (1) To upgrade the intermediate colleges which have re-opened. It is difficult to see that in normal times these colleges would have been upgraded so soon or collectively. This essentially academic decision contains a political element.

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subject including individual observations, remarks, comments, suggestions and recommendations.

Library Science differs from other subjects of study in as much as it is ubiquitous with universal appeal. Hence there is an urgency to impress upon the public and elite the ubiquitous nature of the subject. Just as study of one language is necessary to serve as a medium of communication, the study of library science should be made a common subject to introduce the student to the world of books. I put forth my argument as follows: let us suppose all students in the Intermediate Colleges are given a short course in library techniques. This will make them feel not only at home in huge library buildings but also makes them familiar with little routine matters. The library staff will be saved of giving little embarrassing instructions such as "Do not dog ear pages," "Any kind of marking prohibited," etc. So-called orientation programmes, minor formalities at the Counter, short-range reference questions like the height of Alps or Volume coefficient of the expansion of air will settle of their own accord in a good number of cases. Professional members need not mistake that I am suggesting means to cheapen professional talent. It is an accepted fact that in many libraries most of the sub-professional duties like collection, card-writing, typing of cards, filing of cards, issuing and

- (2) To allow all colleges, to work in double shift. This enormous pressure of work so suddenly and unexpected thrown on these small colleges is likely to reduce, qualities despite all precautions that may be taken.
- (3) For the Government to open new colleges and accomodate them in temporary sheds. It is difficult not to see an element of pique in this decision. A Government which has found it difficult for financial reasons to give compensatory grants to the colleges, will have to find resources a hundredfold if this decision is to be implemented.

Assuming all these are possible, where are the teachers to come from? Two ways have been suggested:

- (1) to recruit the unemployed; statistics show there are about 3,000 unemployed master degree holders in the States ;

- (2) to appoint the teachers of the private colleges which still remain closed. The managements have appealed to the teachers to stand by them ; in a few cases they have threatened the teachers that they would lose their jobs if they responded to University's invitation to enlist for additional services in the colleges which have reopened,

In all these improvised ways of conducting higher education there is the grave risk of standards falling. Even at this late hour it would be possible to hold all opposing forces in check if the fee standardisation could be postponed till the next academic session and arrangements made for holding an enquiry into the financial position of private colleges to decide on the request for compensatory grants.

returning of books, filing of books, searching for duplication are being performed by clerks or attenders who would not have any professional qualification but work under the supervision of professionals.

The students may be taught to use catalogue, to handle the books with care, consult simple Reference Materials and be acquainted with Counter transactions. They must be made to understand that reading too can be fun. This kind of acquaintance with the library and the ways of the books make the students form better library habit than all the wall-posters and articles in professional journals put together can do. Such students can better serve adult education programmes because they know their circles and the tastes of those circles.

Library Science can also be offered as an optional subject at Intermediate and B.A. levels. These students can be engaged in various kinds of sub-professional duties which are now being performed by non-professionals. In addition, this kind of education provides multifarious opportunities for the students and thus there is greater scope for the subject to attract more and more students.

If this proposal could be considered, then the present B. Lib. Sc. Course will be an intensified training course designed to meet the needs of supervisory jobs or of special librarians. The course leading to Master's degree must necessarily be research-oriented.

The Case of Private Managements

Out of a total of 133 colleges in Kerala, 119 are run by private educational agencies. 89% of the total student population in the state (141214) attend privately managed colleges, most of which are run by Christian Churches (64).

Grant-in-Aid

Not until 1963 did the state Government extend any assistance to these colleges. Even the UGC came to the scene in 1958. Besides, the grants offered were specifically meant to pay higher salaries to teachers. Subsequently, a grant-in-aid Code was introduced in 1963 for fulfilling this obligation.

Only 80 per cent of the deficit incurred by the managements is reimbursed. It is against the unmet 20 per cent deficit for which managements are allowed to levy a fee higher than the standard. This income is utilised by the managements in making both ends meet and to carry out some modest developmental projects.

These fees were prescribed by the university with governmental approval. Since introduction of the grant-in-aid, the authorities have tended to reduce these grants without giving any reason. Every year the management went deeper in debt. Some of the college were able to make good these losses by levying the so-called "capitation fee" for admission and donation for staff appointments. The majority of the Christian Colleges have, however, refrained from doing so.

Deduction of Fees

To study this question the Government appointed a one-man commission in the person of Shri Padmakumar in 1970. The Commission reported that some Rs. 3 crores would have to be incurred by the Government if fees of the private and Government Colleges were equalised. It was recommended that tuition fee be reduced in private colleges and increased in Government colleges to bring them at par.

The Kerala Government decided in June to bring about fee unification.

Extent of Losses

Managements have established that if fee losses are not made good, they would have to close down their colleges. The income falls @ Rs. 46 per student at pre-degree stage, Rs. 87 per student at the degree stage and Rs. 193 at the postgraduate level. The overage expenditure in 1970-71 by Government per student in a private college was Rs. 213, whereas it spent Rs. 613 per student in Government colleges!

Conditions for Compromise

The proposals made by Dr. George Jacob, Vice-Chancellor of Kerala University, on behalf of Government for direct payment to teachers salary would be helpful to private managements subject to the following conditions:

- Admission of students and appointment of teachers are to be done by a Committee consisting of the Principal, Head of Department and a nominee each of the Government and the University;
- The principal of communal representation would be followed in the appointment of lecturers; and
- 80% of the admission should be made on the basis of merit while the remaining 20% will be reserved for the Managements.

The managements feel that these conditions were in contravention of the article 30(1) of the Constitution interpreted by the Supreme Court. The Court had clearly stated in its verdict on the Kerala University Act: "No part of the management could be taken away and vested in another body without encroachment upon the guaranteed rights of the minorities." Besides, it also held that grants should not be given in such a manner as to deprive an educational agency of its rights to administer its colleges. The standards and qualifications for staff selection are also laid down by the Government and are made subject to approval of the University. To leave it to a Committee in which the management had no representation would only defeat the basic objectives of the colleges of the minorities.



Kerala—some i W. D. M.

The last has not yet been harvested. juicy coconuts and extempore speeches.

The educational landscape is ravaged by conflicting claims, the majorities, angered the minorities.

People are studying the situation. Is it merely a transient wind, or really? The politician—irresponsible—denies the charge vehemently. He continually quote article 30 of the Constitution. The student does not know what to do.

The confrontation, a fierce one, is being waged off by the Kerala Government. All colleges—both government and private college managements feel that lowering of fees will put the economy into jeopardy but also affect instruction. The air is thick with recriminations. Fear reason ought. The management volunteers and the Government Police detachment! And in the end, have forgotten the logistics—the situation in Kerala.

The Centre's is a watch-and-wait policy. The Prime Minister Mrs. Gandhi had said: "It is better to handle the situation itself." "minority rights are really involved."

It is neither a go-ahead signal nor like the fluid amber which has no fixed situation in Kerala.

The Case of the State Government

The case of the Government has been put forward in a Kerala University Press Release of June 29 issued upon conclusion of a Conference of the Representatives of Private Managements and the University.

The Managements agreed to consider the following direct payment scheme proposed by Vice-Chancellor Dr. George Jacob :

- (a) The University Government may send two names, instead of one proposed in the direct payment scheme ;
- (b) 80% of pre-Degree and Degree Courses admissions will be on merit ; the other 20% will be reserved for the managements. The V. C. said that the same ratio would be considered, two, in case of post-graduate admissions.
- (c) The principle of Communal reservation in the appointment of lecturers may be followed by private colleges as by the University.
- (d) The Colleges will re-open on or before 10th July, 1972.

The Vice-Chancellor offered his good offices to solve the problem as a purely academic and educational one. He said, too, that it could not be denied that great services have been rendered by private managements in the field of education, particularly to individual communities. He was not in favour of nationalisation of education but they should take on the role of public institutions :

"Private colleges are private only in a restricted sense and they have to share the responsibility of public institutions."

It is essential that the colleges should realise that an institution performing indispensable public service has to subject itself to public accountability. This is also necessary because large amounts from the State Exchequer go into their income.

The essentials of University autonomy are three-fold :

- (a) University will decide whom to teach—the right to choose students irrespective of their creed or caste ;
- (b) University is to decide who is to teach—the freedom of the institution to appoint is to be matched with the freedom of the individual to be appointed ; and
- (c) University will prescribe what is to be taught—i.e., the syllabus.

The above autonomy should be within public accountability.

The State Government has made it clear that the Grants-in-aid Code would be observed. No additional grant will be paid beyond 80% of the deficit. Government has prescribed a scheme for direct payment of teachers' salaries.

The Government has suggested a Committee of four, consisting of a nominee of the Management, a Head of the Department, a representative of the University nominated by the Vice-Chancellor, and a representative of the Government.

The University's role is only to ensure that selection is made according to accepted norms.

The Managements run by religious orders or backward communities can have qualified persons of their choice included in the panel recommended by the Selection Committee.

The scheme envisages a similar Committee for regulating admissions. Denial of admission to merit is a great social injustice. The inclusion of on University representative in the Committee will ensure dispensation of justice to admission-seeking students.

Direct payment of teachers' salaries will prevent active political involvement. A teacher with a sense of security will not go after political power, whose essence is insecurity.

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The questions that baffle the youth

—An Investigation

BY Dr. I. R. Sharma,

Head, Dept. of Education and Community Services, Panjabi University, Patiala.

Students in the Universities are, by and large, in the age group 19-21 years; they have crossed the care-free age of boyhood or girlhood and are on the threshold of adulthood. This is an age of assuming greater responsibilities. Reflection, rational thinking, realisation of stark realities of life, choosing life partners, questioning the validity of laws that govern the surroundings, deciding about careers, suddenly getting conscious of obligations towards family, society and the country, gauging one's strengths and weaknesses, enlisting one's follies and intelligent actions, sensitivity and sensibleness are some of the main characteristics of this age. In this period, the life-buds start blooming, personalities begin to open, parental shelter seems to be in some cases, lifting, problems of livelihood begin to haunt. I-am-ness which was still now hidden, comes to the fore-front and one starts seeking one's place in the social hierarchy. The life oscillates between the post-adolescent period and the pre-adulthood stage. A boy or girl behaves in a peculiar manner, sometimes when in possession of adolescence extremely irresponsible and sometimes, when in adulthood, extremely serious and business-minded. This is an age more of the mind than of the body. The mind is occupied with various issues evading solutions. And sometimes the problems assume such serious dimensions that the life's locomotive seems to come to a stop, progress is hindered, confusion envelops the whole personality and the youth become a victim of bewilderment. And when he or she is passing through this turbulent period of total confusion and helplessness, when his problems enslave him completely, when he finds nothing but darkness around him, in extreme desperation he may say or do anything bet-

ween murder and suicide. And if he or she finds his likes around, a group or gang with identical intentions is formed. Such a group suffers from reason blindness, is in possession of profound emotion and like the flooded river or angry flames may do anything. There have been many an exhibition of such out-bursts, with very unfortunate and awful consequences.

There is need, therefore, to find the problems of the youth, well in time, and make efforts to find their solutions. With this aim in view 178 boys and 118 girls, randomly selected from the Arts and Science (post-graduate) departments of the Panjabi University, were asked to complete the sentence given below :

"The question that baffles me the most is....."

The responses were closely studied and with the help of five judges (teachers of the Philosophy and Education departments) they were classified into the following main heads.

- (a) Personal problems;
- (b) Social problems;
- (c) National problems;
- (d) Philosophical problems;
- (e) Psychological problems.

All the responses were coded and classified by the judges; the disputes if any, at the time of classification were resolved by discussion. The data are tabulated below.

TABLE—I

Classification of Problems of Science and Non-Science Students (Boys and Girls).

Sr. No.	Problems	Science—Students		Non-Science Students		Combined		Total
		Boys	Girls	Boys	Girls	Boys	Girls	
1.	Personal	44	14	49	26	93	40	133
2.	Social	15	7	28	27	43	34	77
3.	National	6	2	5	5	11	7	18
4.	Philosophical	11	11	11	20	22	31	53
5.	Psychological	3	2	6	4	9	6	15
Total		79	36	99	82	178	118	296

TABLE-2

Comparison (in percentages) of Problems of Boys and Girls of Science, Non-Science and Combined Group.

Sr. No.	Problems	Science Students Boys	Science Students Girls	Non-Sc. Students Boys	Non-Sc. Students Girls	Combined Boys	Combined Girls	Total	C.R.
1.	Personal	55	39	50	32	52	34	46	3.3*
2.	Social	20	20	28	32	24	29	26	N.S.
3.	National	8	56	5	6	6.2	6	6	N.S.
4.	Philosophical	14	30	11	24.5	12.4	26	18	3.0*
5.	Psychological	3	5.6	6	5.5	5.4	5	5	N.S.

*Significant at .01 level.

TABLE 3

Correlation Between Problems of Boys and Girls, Science and Non-Science Students.

Sr. No.	Groups	(Product Moment)
1.	Boys V/S Girls (Arts Depts)	.79
2.	Boys V/S Girls (Science Depts.)	.82
3.	Boys V/S Girls (Combined)	.80
4.	Arts Students V/S Science Students	.91

5. There is no difference between the problems disturbing the Science and Non-Science students ($r = .91$), and boys and girls taken department-wise (Table 3).

6. The girls in both the groups, Science and Non-Science, also in combined groups, are more variant than boys. They are much more conscious of social and philosophical issues than boys, and the differences are very significant.

Analysis of Data

(a) Personal Problems :

Nearly one boy in every two and one girl in every three, are worried about their personal problems which are distributed into the following categories (frequencies and percentages are given against each category).

Analysis of Data

Tables given above point out the following things very vividly.

1. The personal problems crown the list of questions which baffle boys and girls, and constitute 45% of total issues. The next in the train are social (26%), philosophical (18%), national (6%) and psychological questions (5%).
2. More boys than girls are baffled by personal questions. There is a clear difference of 18% in favour of boys ; C.R. (3.3) is significant at 0.01 level.
3. 26% girls against just 12% boys find no ready answer to philosophical questions. There is a clear difference of 14% in favour of girls ; C. R. (3.0) is significant at 0.01 level.
4. Almost equal number of boys and girls are touched by social, national and philosophical issues.

Nature of Problems	Frequency Boys	Frequency Girls	Total	Percentages (Apprx.)
Getting a job, what after M.A./M.Sc. ?	42	19	61	46
Studies/Examination Success	13	15	28	21
Finding a Life Partner	10	6	16	12
Getting Popular	2	7	9	7
Further Education	3	3	6	5
Financial Worries	2	4	6	5
Personal Health	0	3	3	2
Individual Problems (misc.)	1	3	4	2
Total			133	100

46% students ask pertinently 'What after M.A./M.Sc.?' They are worried about the availability of job. In short they are facing a blurred future. They are suffering from a constant job-worry which is sapping their interest in studies and other important affairs of life. The question of 'job' haunts the boys more than it disturbs the girls. 21% students, nearly equal number of boys and girls are worried about their studies and examinations. 12% students are in search of good life partners. Here the boys are more seeking than girls. In the case of girls, it must be the parents, perhaps, who are worried. Some 7% students suffer from social rejection, they wish to be popular in the class. Further studies, personal health, financial problems and miscellaneous issues disturb only a small proportion of students. Only 5% students, mostly boys, are facing financial hardships.

(h) Social Questions

Whereas one in every two students constituting the sample of the study is self centred, egoistic, worried about personal issues only, one in every four is baffled by social problems. The type of social questions pulsating in the young minds will be clear from the following list.

Nature of Problem	Frequency	Percentage
Educated Unemployment	28	36
Defective System of Education and Examination	20	26
Growing Social Evils	12	16
Social and Moral Degeneration	11	15
Restive and Directionless Youth	6	7
Total	77	100

The problem of educated unemployment is uppermost in the minds of the students. They are equally worried about the defective system of education and examination. After all if such a colossal investment, as is made in education, especially at the college and university level, is not to bring tangible results, the situation may be referred to as a major failure of educational enterprise. Nearly 30% students are also painfully conscious of growing social degeneration. In the social field they have painfully expressed their concern about uneven distribution of wealth, mounting poverty, casteism, communalism etc., and in the moral areas they feel worried about decaying higher values of life and increasing deception, dishonesty, black-mailing, corruption, crookedness, betrayal of the reposed faith favouritism and other countless immoral outbursts. They ask why men in authority speak and act differently, why merit is ignored, why

leaders run away from actual problems facing the society, why they hold out promises which they know they will never fulfil, why rich are getting richer and the poor poorer, why law doesn't operate equally for all, why are the poor and the weaker sections of the society treated shabbily, why law and order are getting out of hands, why are not examinations objective and why dullards are crowned with success and saddled into coveted positions. They also want to know why people are becoming lethargic, apathetic and lazy, why do they under function, why don't they turn off the aimlessly running water taps, and switch off the lights and fans when no longer required, why high ups are attended to in hospitals and other places in preference to the less known and less well to do or poor people and.....?

Seven percent boys and girls have also shown their anxiety in the field of youth-problems. They ask: What will happen of the students, which direction they are going to, what lies in store for them, who is going to lead them and where and what for. Aimlessness is constantly worrying and frustrating them. They feel they are becoming helpless and useless for themselves and for society. They relentlessly ask: Why are we being disowned? Why are we hated and why people don't confide in us? And they want to know how this moral and social rot can come to a stop, what action-points can be listed to make a start in this direction?

(c) Philosophical Issues

Quite a substantial percentage of students (18%) seeks answers to philosophical issues. They want to know about God, life, death, soul, ultimate reality, true happiness, values of life, attributes of a perfect man, goal of life, functioning of the universe, why at all should God give birth to men and women, circle of birth and death, and other such questions. They want to know whether man and woman are rivals or complementary, is life a gift, or a painful thing, whether to be or not to be and why? They want to be convinced with regard to the existence of God. God as the real creator of the world, the absoluteness versus relativity of values like truth, beauty, goodness and justice. They want to resolve the paradoxical situation: honesty is perishing and dishonesty is flourishing, moralists are pooh-poohed and wicked are honoured, and truth fails and lie succeeds. Does God watch all this and keep quiet? Is He actionless, is He a party to the Satan or the vicious. Who is going to uphold the virtues and the virtuous people? They want to know how it is wrong to indulge in and teach the so called immoral actions in the light of dictum: Nothing succeeds like success.

(d) National Issues

Six percent students, more boys than girls, are worried about national issues. They express their anxiety about the food problem, language controversy, regionalism, political instability, floor-crossing of legislators and parliamentarians, naxalite activities, mounting prices, strained relations with neighbourly

countries, anti-national incidents of burning the national flag, beheading of the statues of national heroes and demand for state-autonomy and other such disintegrating forces. The students ask: Why is the country lagging behind other nations, what is going to be the future of the country, what is going to be the fate of democracy, when will shallow slogans come to end, when shall we have sincere people at the helm of affairs and should students join politics and bring a stop to this increasing rot in social life of the country.

(e) Psychological Questions

Five percent students are baffled by psychological problems. Their questions are indicative of the fact that they suffer from mental worries and tensions of different kinds. They ask: Why I am compelled to do wrong to society, why I feel upset always where and how I can find peace of mind, how to become normal minded, how to get rid of sensuous emotions, why I constantly think of her, why I want to kill a few people, why I feel hopeless and useless, why I have lost all interest in life, why I am becoming irritant, why no one likes me in the class, why a particular teacher is against me and why I don't like to marry and thus offend my parents.

Conclusions and Suggestions

Forty-five percent of the total problems facing the youth are personal, 26% are social, 18% philosophical, 6% national and 5% psychological in nature. The personal problems baffle boys (53%) much more than the girls (34%), social issues surround them in almost equal measures (boys 24%, girls 29%), philosophical queries occupy the minds of double the number of girls than boys (boys 12.4% girls 26%; C. R.—3.0 significant at 0.01 level) and psychological and national issues have no sex discrimination to convey.

The problems of the Science and Non-Science students are identical ($r=.91$). The girls in both the Science and Non-Science groups are more variant, they are less introvert and egoistic than boys, their questions are not concentrating on one category i.e., personal, as is the case with boys. The problems which disturb the students least are national and psychological in nature.

1

Among the personal problems, the one standing at the top, concerns employment. Out of a total of 133 questions under this category 61 are connected with employment, 28 with studies and examinations, 16 with matrimony, 9 with self popularity and a small number is spread over financial worries, personal health, further education etc. The question that haunts the students the most is "What after M.A./M.Sc.?" Among national issues also the educated unemployment has been rated as question No. 1 by most of the students and they attribute it, and correctly so, to defective system of education. It appears that lack of employment opportunities, after M.A./

M.Sc., heavily hangs upon the students' minds and to a great extent frustrates them. Outbursts of students indiscipline in various forms like strikes, agitations, violence, even murder and suicide are the outcomes of this acute frustration. Some urgent steps are required to be taken to create jobs for the educated and make education job-oriented because a frustrated youth is always a stigma on any country. The Committee on 'Unemployment' appointed by the Govt. of India should come out with its report without any further delay.

Anxiety about the examinations and studies is quite natural but the disturbing factor is the element of subjectivity and favouritism in the examinations and the students are painfully conscious of these and other drawbacks in the existing examination system. These freaks and vagaries cause a fear which constantly lurking in the minds of student, robs them of hard work, initiative and sincere efforts and gives rise to the employment of underhand means and other mal-practices. Examination reform is long overdue, it can't and should not wait any longer. If the present state of conducting examinations with the help of police force, under an atmosphere of awe and hush-hush continues, very soon we shall be reaching a stage of precipitation and no examinations or even teaching would be possible. "Imminent examination reform" is a writing on the wall, and any further neglect thereof is fraught with serious dangers.

One fourth of the questions turbulating the minds of the students are connected with social maladies, and moral vices. 62% of such issues concern educated unemployment and defective education system and nearly 30% are connected with social evils and moral degradation. Students want to know why corruption, black-mailing, favouritism, casteism, communalism, dishonesty, bribery, adulteration, immorality etc. are on the increase and how these can be checked. why are merit and scholarship sacrificed at the altar, of kinship of caste, creed or community, why are there social inequalities, uneven distribution of wealth and opportunities and how will they come to an end; and what is going on with the youth, will no one lend them constructive goals? These are fundamental questions, important and serious. It is indeed heartening that the country's youth has started applying its mind to such issues. On our part we should formally and informally provide them with a forum to discuss such problems and also involve ourselves in such discussions. It will be a real education and university life will become meaningful, significant and purposeful. After all social understanding and social reform can't be taken away from the purview of the University studies and activities. The University departments of students welfare have a significant role to play in this direction.

Nearly 26% students, more girls than boys, want to know about God, life, death, universe, soul, higher values of life, good religion and attributes of perfect living. These are philosophical issues and different

people have different notions about each of these issues, and more than often their concepts are irrational and wrong. It is desirable that through specially organised lectures, symposia and discussion groups opportunities should be provided to the students to have a clear and correct idea about all these issues. As recommended by Kothari Education Commission a course of lectures on philosophical issues may be made an integral part of education at all levels of study. Strangely enough these questions, both in the Science and Non-Science groups, have been asked by double the number of girls than boys. There is no ready explanation for this except that girls are not worried more for jobs than boys and they usually concern themselves with secrets of nature and life, they are more philosophy and religion minded. The problem, however, deserves further investigation.

What concerns the students is the changing meaning and the concept of values like truth, honesty, goodness etc. They want to know why a simple speaking, honest and sincere man suffers in this world and a cunning, sly and dishonest person flourishes. Does God watch all this and will He take any action and when?

National issues form a small percentage of the total queries made by the students. Some of the questions baffling the students minds are about food-problem, language controversy, political instability, naxalite activities, floor crossing, strained neighbourly relations, anti-national activities, shaky national solidarity, decaying international prestige and rising

prices. The questions touched by the students are really disturbing and worth discussion. The Universities should make efforts to involve the students in the national problems and initiate and encourage discussion on such topics. It is indeed unfortunate that not many students are concerned with national problems. Steps should be taken to acquaint the student folk with national problems and present before them an academic and unbiased view of all issues. The Universities should make efforts to prepare the students for shouldering the national responsibilities.

5% of the students have psychological problems disturbing them, they suffer from mental worries and tensions; they need psychotherapy. Their problems have inferiority, social rejection, poverty, intellectual mediocrity, sex and other such issues as the bases. Some of these problems can be tackled easily others will require the help of a psychiatrist. There is need in every University of some setting up of some psychological bureau consisting of 2-3 psychologists whom such students could address their problems and get advice and suggestions. Extreme steps like suicide or murder among the University population are always the results of unresolved mental tensions and conflicts. These mental worries need to be taken care of earlier than any other type of students' questions. Such a bureau may also investigate into the students' problems from time to time and make suggestions towards their solution. This will have a softening effect on students and they will be able to devote their best towards studies and involve themselves in constructive programmes.

Contd. from page 32

42. One Research Assistant in Economics in the grade of Rs. 200-15-350 plus usual dearness allowance

43. One Research Assistant to Professor of Zoology in the grade of Rs. 200-10-310-15-400 plus usual dearness allowance

QUALIFICATIONS :

First or high second class Master's in the subject concerned with a good academic record. For post No. 37, candidates possessing M.A. degree in Economics are also eligible. For posts No. 40 & 41, candidates possessing equivalent diploma in the languages concerned are also eligible.

Preferential :

Doctorate in the subject concerned advance studies and published work and experience of teaching degree/honours/post-graduate classes for two years.

GENERAL :

For purposes of qualifications required for the above posts, the degree obtained in a subject taught in a Department which is subsequently constituted into separate Departments, shall be deemed to be degree in the subject concerned for the newly constituted Departments.

Relaxation in the prescribed qualifications may be made in exceptional circumstances in accordance with the Ordinances. Ability to teach LL B. classes for the posts in the Faculty of Law and under-graduate classes for all posts through the medium of Hindi essential except for the posts in Languages.

Benefits of Provident Fund available as admissible under the rules on confirmation for permanent posts. Period of probation for permanent post is two years.

It is not necessary to fill all/any of the advertised posts.

Application on the prescribed form (available on request, accompanied with a self-addressed envelope of size 23 cm x 10 cm, free of cost from the office of the Registrar) with recent testimonials, publications etc. should reach the Registrar, Lucknow University, by Saturday, September 2, 1972. The candidates, who are in service must send their applications through the proper channel. Application Forms to out-station candidates will be issued by post upto Saturday, August 26, 1972.

New Textbooks in English from the USSR available in India

(Mir Publisher's, Moscow)

- 1. Analytical Chemistry,**
S. Shapiro and Ya. Gurvich,
pp. 560, Rs. 7.10
- 2. Aviation,**
pp. 262, Rs. 2.60
- 3. Childhood Osteology**
u. Volkov. pp 467, Rs. 15.00
- 4. Design Of Reinforced Concrete Structures,**
V. Murashev, E. Sigalov and
V. Baikov, pp. 597, Rs. 9.60
- 5. Engineering Physical Metallurgy**
Y. Lakhtin, pp. 444, Rs. 7.20
- 6. Fundamentals of Electricity,**
F. Evdokimov, pp. 518, Rs 6.00
- 7. Gravity Prospecting,**
N. Sazhina and N. Grushinsky,
pp. 492, Rs. 9.50
- 8. Higher Algebra,**
A. Kurosh, pp. 430, Rs. 8.50
- 9. Instrumentation And Controls In The
Oil And Petrochemical Industries,**
I. Weinberg and K. Kalitenko,
pp. 430, Rs. 8.30
- 10. Iron And Steel Production,**
K. Bugayev and others, pp. 250
Rs. 3.60
- 11. Laboratory Practice In Radio,**
M. Kazinik. pp. 96, Rs. 1.20
- 12. Lectures On The Theory Of Integral Equations,**
I. G. Petrovsky, pp. 135, Rs. 2.00
- 13. Mathematical Handbook-Higher Mathematics,**
M. Vygodsky, pp. 872,
Rs. 10.00
- 14. Open Hearth Steelmaking Practice,**
M. Sosnenko, pp. 286, Rs. 3.75
- 15. Orthopaedic Stomatology,**
V. Kurlyandsky, pp. 520, Rs. 12.75
- 16. Physical Geology,**
G- Gorshkov and A. Yakushova, pp. 583.
Rs. 8.35
- 17. Photometric Analysis,**
A. K. Babko and A. T. Pilipenko, pp. 388,
Rs. 8.30
- 18. Problems In Descriptive Geometry,**
Kh. A. Arustamov, pp. 407, Rs. 11.05
- 19. Problems In Elementary Physics,**
B. Bukhovtsev, V. Krivchenkov,
C. Myakishev and V. Shalnov, pp. 438, Rs. 8.30
- 20. Radio Engineering And Electronics,**
Z. Pruslin and M. Smirnova, pp. 465, Rs. 5.50
- 21. Residues and Their Applications,**
A. Gelfond, pp. 130, Rs. 2.00
- 22. Seismic Prospecting,**
pp. 463, Rs. 5.75
- 23. Theory Of Metallurgical Processes**
A. Volsky and E. Sergievskaya, pp. 360,
Rs. 8.00

Authorised Agents and Main Distributors

People's Publishing House (P) Ltd.,
Rani Jhansi Road,
New Delhi-55.

Manisha Granthalaya (P) Ltd.,
4/3-B, Bankim Chatterjee Street,
Calcutta.

New Century Book House (P) Ltd.,
6/30, Mount Road, Madras.

Prabhat Book House,
Trivandrum.

Visalaandhra Publishing House,
Eluru Road, Vijayawada-2.

Visallandhra Publishing House,
Sultan Bazar, Hyderabad.

People's Book House,
Hazaribagh Road,
Ranchi.

People's Book House,
Opposite Patna College,
Patna.

Navakarnataka Publications,
Kempagowada Circle,
Bangalore-9.

Nabajuga Granthalaya,
Bajrakabati Road,
Cuttack.

Punjab Book Centre,
Post Office Road,
Jullundur.

Punjab Book Centre,
1940, Sector 22-B,
Chandigarh.

New Age Book Centre,
Near Chowk, State Bank of India,
Cheel Mandi,
Amritsar.

PPH Bookstall,
190-B, Khetwadi Main Road,
Bombay-4.

Progressive BookHouse,
Shillong Road, Panbazar,
Gauhati.

Progressive Book Depot,
Motia park.
Sultania Road,
Bhopal.

Kitab Ghar,
Chaura Rasta,
Jaipur.

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1, New Market, Hazratganj,
Lucknow.

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PANJAB UNIVERSITY (CHANDIGARH)

(Advertisement No. 39/721)

Application are invited for the following temporary posts in the Department of Chemistry, Panjab University, Chandigarh, so as to reach the Registrar by 11-8-72 along with Postal Orders for Rs. 7.50 paise for posts at Sr. No. 1 to 4 and Rs. 5.00 for posts at Sr. No. 5.

1. Readers in Inorganic Chemistry 2
Grade Rs. 700-50-1250
 2. Lecturers in Inorganic Chemistry 2
Grade Rs. 400-40-800-50-950
 3. Research Associates in Inorganic Chemistry 2
Grade Rs. 400-40-800-50-950
- Allowances as admissible under the University rules,
4. Senior Research Fellows (in Inorganic Chemistry) 3
Rs. 500/- p.m. (fixed) each
 5. Junior Research Fellows (in Inorganic Chemistry) 3
Rs. 300/- p.m. (fixed) each

Qualifications

Readers

Essential

- (i) A first or second class Master's Degree of an Indian University or an equivalent qualification of a foreign University in the subject with bright academic record.
- (ii) Either a research degree of doctoral standard or published research work of a high standard in journals of repute.
- (iii) About five year's experience of teaching postgraduate classes at a University or College level,

Desirable

- (i) Experience of using modern techniques for research in Inorganic Chemistry.
- (ii) Experience of guiding research both at postgraduate and post-doctoral levels.

Lecturers/Research Associates

Essential

- (i) A first or second class Master's Degree of an Indian University or an equivalent qualification of a foreign University in the subject.

Desirable

- (i) Published research work
- (ii) Doctoral degree and teaching experience to post-graduate classes.
- (iii) Experience of using modern techniques for research in Inorganic Chemistry.

Senior Research Fellows

First class Master's Degree in the subject followed by Doctorate Degree or equivalent, published work in journals of repute.

Junior Research Fellows

A first class Master's Degree in the subject with some research experience.

Persons already in service should route their applications through their employers.

Application form can be obtained from the office of the Finance & development Officer, Panjab University, Chandigarh, by making a written request accompanied with a self-addressed stamped envelope of 23 X 10 cms.

UNIVERSITY OF BOMBAY

Department of Statistics

Application are invited for the post of a Professor of Statistics in the University Department of Statistics in the grade of Rs. 1100-50-1300-60-1600. The Professor will also be the Head of the Department. The post carries the benefits of Provident Fund and Dearness Allowance and House Rent & Compensatory Local allowances at the rates sanctioned by the Syndicate from time to time. A higher starting salary may be given to a person possessing high qualifications. The appointment will be on probation for two years in the first instance; but the probationary period may be waived by the Syndicate in a special case.

Applicants should possess high academic qualifications in Statistics and should have published research work of recognised merit, at least ten years' experience of teaching post-graduate classes and experience of successfully guiding Ph.D. students.

Eight copies of the application in the prescribed form, which can be had from the Registrar, should be submitted so as to reach the Registrar, University of Bombay, Bombay-32, on or before 14th August, 1972.

Candidates called for interview will have to present themselves at their own expense.

Bombay, T.V. CHIDAMBARAN
15th July, 1972 University Registrar

UNIVERSITY OF SAUGAR

Advertisement No. R-4/72

Applications on a prescribed form (obtainable from the Undersigned on requisition) accompanied by a self-addressed envelop and a Postal Order of Rs. 5.00 in each case are invited for the following posts so as to reach the Registrar, University of Saugar (M.P.) before 10-8-72.

Department of Applied Geology

One Professorship on the salary scale of Rs. 1100-50-1300-60-1600. Post permanent.

Department of Hindi

One Professorship sanctioned by the U.G.C. under IV Plan on the salary scale of Rs. 1100-50-1300-60-1600.

Professorship's Qualifications: The candidate must have:—

(i) A Doctor's degree and/or high academic attainments with wide recognition for scholarship and original contribution to the subject.

(ii) Published work to their credit.

(iii) Extensive experience of conducting and guiding research.

(iv) At least 10 years experience of teaching post-graduate classes or should have had at least 10 years experience of Advanced Research in the case of Applied Geology.

(v) A good working knowledge of Hindi, both written and spoken.

One Readership in Applied Geology: Sanctioned by the U.G.C. under IV plan on the salary scale of Rs. 700-50-1250.

Qualification:

(i) A first or second class Master's degree or its equivalent.

(ii) A Ph.D. or higher research degree or published work of merit or experience of having successfully guided research work leading to a research degree.

(iii) At least 7 years experience of teaching post-graduate classes.

(iv) A good working knowledge of Hindi, both written and spoken.

Department of Pharmaceutical Science

One Instructorship: On the salary scale of Rs. 200-15-290 likely to be revised to Rs. 250-15-400.

Qualification: (i) At least a second class Bachelor's degree in Pharmacy (Four year AICTE pattern).

(ii) A good working knowledge of Hindi, both written and spoken.

Department of Geography

One Asstt. Professorship: (Permanent)

Specialization: in Agricultural and Industrial Geography, Population Geography and Regional Geography (India).

Department of Sanskrit

One Asstt. Professorship: (Permanent)

Specialisation in Sanskrit Vyakarana and Poetics and ability to teach through the medium of Sanskrit also.

Department of English

One Asstt. Professorship : (Permanent)

Desirable : Some formal training in the teaching of English as a language and/or some experience of teaching it.

Department of Political Science and Public Administration

Two Asstt. Professorships : (Permanent)

Specialisation : (i) In international Politics.

(ii) In Public Administration.

M.A. in Public Administration will be given preference.

Pay Scale : Asstt. Professors : 400-40-800-50-950.

Qualifications (General) for Asstt. Professorships except for Law Department.

(i) A first class Master's or an equivalent degree recognised for the purpose by the University or a second class Master's Degree or an equivalent Degree recognised by the University with at least 2 years teaching experience of post-graduate classes preferably at a University or with recognised research work.

(ii) A good working knowledge of Hindi, both written and spoken except for Asstt. Professorship in English.

Temporary appointments of Assistant Professors are also likely to be made in the following Departments, if necessary for which separate applications may be made :

Physics, Chemistry, Zoology, Botany, Geography, Anthropology, Pharmaceutical Science, Mathematics, Hindi Commerce and Law.

For Law Department : Part-time Asstt. Professors in Law on Rs. 250-00 p.m.

Qualifications : Candidates should have put in either at least seven years' practice at the bar, or should possess seven years' teaching experience of Law, or should have obtained the degree of LL.M.

S.J. NAIDU
Registrar

OSMANIA UNIVERSITY HYDERABAD-7, A.P.

Advertisement No. 10/1972

Applications, in the prescribed form, together with the Registration Fee of Rs. 5-00, are invited for the following posts in the University service, so as to reach the undersigned on or before 18-8-1972.

1. Reader in Islamic Studies
2. Lecturer in Psychology

3. Lecturer in Sociology

4. Lecturer in Electronics & Communication Engineering.

Note :

1. Candidates who have applied for Post No. 3 in response to Advertisement No. 2/1972, need not apply again.
2. Application form, with full particulars, qualifications, age, etc., can be had from the Director, Department of Publication & University Press, Osmania University, Hyderabad-7, A.P. (India), on payment of Rs. 3-00 in person or by Money Order or by Postal Order UNCROSSED, made payable to the Director and by sending a self-addressed envelop (11½ cm x 26½ cm) duly stamped for Ordinary or Registered Post.

Sd/- (L. B. Deshpande)
Registrar

SAMBALPUR UNIVERSITY SAMBALPUR

Advertisement

No. 15712/Estt. Dated the 13-7-72

Applications in prescribed form with attested copies of mark sheets and certificates of each of the examinations passed are invited for the following posts.

1. **Registrar :**

(i) **Qualification essential :**

(i) A Second Class Master's Degree with at least 48% marks and

(ii) Ten years experience in teaching in a college and/or in educational administration preferably University administration.

The aforesaid qualification can be relaxed if a candidate is otherwise well qualified.

2. **Scale of pay : Rs. 1100-50-1300-60-1600.**

3. **Age of retirement : 60 years**

4. **Rent free accommodation or house rent allowance as per rules of the University will be paid.**

2. **Development Officer :**

(The post is temporary but is likely to made permanent).

1. **Qualification Essential :**

(i) Second Class Master's Degree with at least 48% marks or a degree in Engineering or Medicine.

(ii) Eight years experience including teaching and/or educational administration and/or General administration which may be relaxed in the case of candidates found otherwise suitable.

2. **Scale of pay : Rs. 700-50-1250**

3. (i) **Age of retirement : 60 years**

(ii) The candidates for this post shall not be more than 45 years on

1-8-72 but in case of a suitable candidates this may be relaxed.

Both the posts carry usual Dearness allowances, and C.P.F. and Gratuity benefits as sanctioned by the University from time to time.

Seven copies of application forms will be supplied from the University Office to each candidate in person on cash payment of Rs. 2/-. Candidates who intend to receive their forms by post are required to send (a) Crossed Indian Postal Order of Rs. 2/- payable to Finance Officer, Sambalpur, University, Sambalpur (b) self addressed envelop (23cm x 10cm) with postage stamp worth Rs. 2/- affixed to it (beside R.R. Stamp of 5 Paise) with the words "APPLICATION FORM for the post of Registrar" or "Development Officer" as the case may be supercribed on it. Money order or cheques will not be accepted. Those who had applied for the post of Development Officer in response to the earlier advertisement need not apply again. They may simply intimate the change of address and the date of application.

The last date of receipt of application in the office of the University, Budharaja Hills, Sambalpur, (Orissa) is 16-8-72. All communication should be addressed to the Registrar, Sambalpur University by designation only.

The candidates will be required to appear for an interview at their own expenses before a selection Committee. Intimation will be sent to the candidates for appearing at the interview in due course.

The Selected candidates must join within one month from the date of issue of appointment order.

Sd/- (S. SAHU)
Registrar

Sri Venkateswara University TIRUPATI NOTIFICATION

The University will start Correspondence Courses for B.A. and B.Com. Degree Examinations in the following subjects from the academic year 1972-73

B.A./B.Com Part I (a) English (b) Telugu or Hindi.

B.A. Part II—History, Economics and Politics.

B.Com. Part II—Commerce subject.

Admissions are open to students from all over India. Candidates who have passed the Intermediate or Pre-University or any other examination recognised by this University as equivalent will be eligible for admission. Candidates leaving in Andhra Pradesh who wish to seek admission may write to the Co-ordinator Correspondence Courses, Sri Venkateswara University, Tirupati on plain paper for prospectus, application form etc. by remitting Rs. 5/- into a branch of the State Bank of India on or before August 12th, 1972. Candidates living outside Andhra Pradesh should send the amount by Money Order.

(M. K. Ramakrishnan)
Registrar

Notification

APPLICATIONS are invited from qualified candidates for the following posts in the Bangalore University :—

<i>S. No.</i>	<i>Designation of the Post</i>	<i>No. of Post</i>	<i>Scale of Pay</i>
1.	Professor of Commerce ...	1	Rs. 1100-50-1300-60-1600
2.	Reader in Chemistry (Physical Chemistry) Temp. post ...	1	Rs. 700-50-1250
3.	Reader in Economics (with specialisation in Econometrics) ...	1	—do—
4.	Reader in Educational Administration ...	1	—do—
5.	Reader in Educational Sociology ...	1	—do—
6.	Reader in Educational Psychology ...	1	—do—
7.	Lecturer in Chemistry ... Physical Chemistry: 1 post Bio-Chemistry : 1 post Inorganic Chemistry : 3 posts One post temporary	5	Rs. 400-40-800-50-950
8.	Lecturer in Zoology ... (with specialisation in any one of the experimental branches, viz, Endocrinology, Developmental Biology etc.,)	3	—do—
9.	Lecturer in Geology ...	3	—do—
10.	Lecturer in Kannada ...	2	—do—
11.	Lecturer in French ...	1	—do—
12.	Lecturer in Education ...	1	—do—
13.	Lecturer in Economics ...	2	—do—
14.	Lecturer in Sanskrit ...	2	—do—
15.	Lecturer in Statistics ...	2	—do—
16.	Lecturer in Commerce ...	1	—do—
17.	Lecturer in Educational Sociology ...	1	—do—

QUALIFICATIONS

Professor of Commerce

Essential :

- A first or Second Class Master's Degree in the subject/branch concerned ;
- Five years' experience of teaching degree and/or post graduate classes ;
- Capacity to carry out independent research work and to guide students for research Degree ;
- Publication work of a high standard.

Desirable :

- A Doctorate degree
- Knowledge of Kannada

Reader in Chemistry/Economics

Essential :

- A first or second class Master's Degree in the subject/branch concerned;
- Five years' experience of teaching degree and/or post graduate classes ;
- Capacity to carryout independent research work;
- Publication of research work of recognised merit.

Desirable :

- A Doctorate Degree ;
- Knowledge of Kannada

Reader in Educational Administration, Educational Sociology, Educational Psychology

Essential :

Essential :

- A first or second class Master's degree in Arts, Science or Commerce and First or Second Class Master's degree in Education or an equivalent degree ;

Note : For the post of Reader in Educational Sociology and Educational Psychology, the M.A., degree should be in the appropriate subject

- Five years' experience of teaching degree classes in a college of education ;
- A Doctorate Degree in Education or published research work of an equivalent standard.

Specialisation: Specialisation in any appropriate field viz. Educational Sociology/Educational Psychology/Educational Administration

Desirable :

Knowledge of Kannada.

Lecturer in Chemistry/Zoology/Geology/Kannada/French/Economics / Sanskrit / Statistics and Commerce :

A First or Second Class Master's degree in the subject concerned.

Desirable :

(a) Experience of teaching degree classes ;

(b) Knowledge of Kannada.

Lecturer in Education/Lecturer in Educational Sociology :

Essential

(a) A First or Second Class Master's degree in Arts, Science or Commerce :

(b) First or Second Class Master's degree in Education;

(c) Two years of teacher experience at degree level.

Note : for the post of Lecturer in Educational Sociology, the M.A. Degree should be in the appropriate subject.

Desirable :

Knowledge of Kannada.

The Prescribed application forms, in six sets, may be obtained from the Registrar, Bangalore University, Post Box. No. 5017, Bangalore-1, on or before 31-8-72 —on payment of Rs. 15/- (Rupees fifteen only) for the posts of *Professors, Readers and Librarian* and Rs. 10/- (Rupees ten only) for the posts of *Lecturers*. The amount may be sent in cash or by Money Order or by Crossed Postal Order payable to the Registrar, Bangalore University, Bangalore. The requisition for the application forms must be accompanied by a self-addressed envelope of 5 x 11 duly stamped with 0.85 paise postal stamps plus the Refugee Relief stamp.

Six copies of the applications giving all the required particulars with copies of atleast two testimonials (one of which should be from the Head of the Institution, if any, where the applicant is now serving or served last) attached to the applications should be sent, so as to reach the Registrar, Bangalore University, Post Box No. 5017,

Bangalore-1, on or before 15-9-72. Copies of publications, if any, which will not be returned, may be enclosed to their application forms.

Those who are in employment should send their applications through their present employer, failing which their applications will be rejected.

Canvassing, directly or indirectly, would disqualify the candidates.

The candidates selected for appointment in the University will be on probation usually for a period of one year. Probationary period may be extended if the University so desires. They will be required to execute a contract of service as required under Section 48 of the Bangalore University Act, 1964. The appointment is usually tenable for a period of five years in the first instance, but is renewable at the discretion of the University.

Those who had already applied for the posts mentioned above in response to the Notification No. EST/CCB/MIS. 32/71 dated 14-5-1971 and EST/CCB/MIS. 103/71 dated 1-5-1971 and No. EST/CCB/APT. 24/70-71 dated 7-11-1971 need not apply again if they satisfy qualification and specialisations prescribed in the present notification.

No. T.A./D.A. is admissible for attending the interview.

By order
(T. P. Issar)
Registrar.

Berhampur University
Berhampur-7, Ganjam, Orissa
No. 2249/BU/Admn./72
dated 1-8-72

ADVERTISEMENT

Applications are invited for the following teaching posts for the Post Graduate Departments of this University.

S. No.	Subject	Post	Number
		Vacant	of
			Vacancies

1	Mathematics	professor	1
2	Zoology	Reader	1
3	physics	Reader	1

Scale of pay : Professor :
Rs. 1100-50-1300-60-1600/-
Reader : Rs. 700-50-1250/-

plus usual dearness allowance.

Qualification and Experience

1 Professor : The candidate shall have

- (i) A good academic record ;
- (ii) At least five years experience as a Reader Preferably with experience of teaching in Post Graduate Classes and a total teaching experience of not less than 10 years ;
- (iii) Research Degree or outstanding published work of equivalent standard;
- (vi) Ability to guide research work;
- (v) Specialisation in Modern Mathematics.

Reader : The candidate shall have

- (i) A first class or high second class Master's Degree in the subject with at least 55 percent marks;
- (ii) A research Degree of Doctorate Standard or published work of equivalent standard in the subject.
- (iii) At least eight years teaching experience of which at least two years should be in P. G. Classes.

Research experience up to a maximum of three years will be treated as teaching experience provided he has obtained a Doctorate Degree.

Seven copies of Prescribed application form will be supplied to the candidates from the office of the undersigned on payment of Rs. 1.50 paise in person or by Postal Order payable in favour of the Registrar, Berhampur University alongwith a self addressed envelop measuring 22 x 10 Cms., affixed with postage stamps worth 0.85 paise (including Refugee Relief stamp worth of 0.05 paise). No money order will be entertained for the purpose.

The applications duly filled in should reach the undersigned on or before 1-9-72. Applications received after the due date will not be entertained.

Candidates who are in service should apply through proper channel.

Sd/- R. C. Rajguru,
Registrar.

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SRI VENKATESWARA UNIVERSITY

Applications in the prescribed forms are invited for the following posts in the University service on or before 14th August, 1972.

I. S. V. University College, Tirupati :

Subject	Post	No. of posts.	Scale of Pay	Specialisation
Home Science	Readers	2	Rs. 700-50-1250	(1 in Child development 1 in Child Guidance Clinic)
Adult Education	Director	1	Rs. 700-50-1250	—
	Asst. Director	1	Rs. 400-40-800-50-950	—
	Teachers	2	—	—
Library Science	Professor of Library Science-cum Librarian	1	Rs. 1100-50-1300-60-1600	—
	Librarian	1	Rs. 700-40-1100	—
Diploma Courses	Lecturers	3	Rs. 400-40-800 50-950	(1 Banking & Accountancy 1 Local Self Government 1 Linguistics)

II. S. V. U. College of Engineering, Tirupati :

Mechanical Engineering	Professor	1	Rs. 1100-50-1300-60-1600	(Industrial Engineering)
	Reader	1	Rs. 700-50-1250	—
	Associate Lecturer	1	Rs. 300-25-500-30-560	(Industrial Engineering or Production Engg.)
Civil Engineering	Professor	1	Rs. 1100-50-1300-60-1600	(Water Resources Engg.)
	Lecturer	1	Rs. 400-40-800-50-950	—
Electrical Engineering	Professor	1	Rs. 1100-50-1300-60-1600	(Electronics Engg./Instrumentation and Control Systems).
	Reader	1	Rs. 700-50-1250	—
	Associate Lecturers	3	Rs. 300-25-500-30-560	—

All the above posts carry D.A. at the University rates.

Prescribed application forms and particulars can be had from the Registrar, Sri Venkateswara University, Tirupati, A.P. on payment of Re. 1/- either in person or by sending State Bank of India Challan or by Money Order enclosing M.O. receipt to the requisition in favour of the Registrar, Sri Venkateswara University, Tirupati. The Syndicate Reserves the right to fill or not to fill any or all of the above posts without assigning reasons therefor.

University Office,
Tirupati, Dated 18-7-72

Sd/- M. K. Ramakrishnan,
Registrar.

LUCKNOW UNIVERSITY

Advertisement No. 12/1972

Application are invited for the following posts :

PROFESSORS IN THE GRADE OF Rs. 1100-50-1300-60-1600

1. One Professor of English
2. One Professor of Arabic
3. One Professor of Psychology
4. One Professor of Philosophy
5. One Professor of Anthropology
6. One Professor of Sociology
7. Two Professors of Education
8. One Professor of Public Finance & Monetary Economics
9. One Professor of Chemistry
10. One Professor of Law
11. One Professor of Constitutional & Administrative Law

QUALIFICATIONS:

Essential :

First or High Second Class Master's degree and Doctorate in the subject concerned with a good academic record, experience of teaching post-graduate classes for not less than seven years and/or having conducted and successfully guided research work for seven years in a recognised institution, and having published work of high standard in the subject concerned. The essential degree qualification for the posts of Professors in the Faculty of Law will be LL. M. degree.

Preferential :

High academic distinctions.

READERS IN THE GRADE OF Rs. 700-50-1250 PLUS D.A. AS ADMISSIBLE UNDER THE RULES

12. Two Readers in Education
13. One temporary Readers in Psychology
14. One temporary (likely to be made permanent) Reader in Lib. Science
15. One temporary (likely to be made permanent) Reader in Journalism
16. Two permanent and one temp. (likely to be made permanent) Readers in Sociology
17. One temporary Reader in Social Work
18. One Reader in Hindi
19. One Reader in Linguistics in the Department of Hindi
20. One Reader in Botany (Plant Nutrition)
21. One Reader in Law
22. One Reader in Commerce.

QUALIFICATIONS :

Essential :

First or high second class Master's Degree and Doctorate in the subject concerned with a good academic record and experience of teaching honours/post-graduate classes for not less than five years and published research work of high standard in the subject concerned. The essential degree qualification for the post of Reader in Law will be LL. M. degree.

Preferential :

Experience of teaching post-graduate classes and guiding research.

LECTURERS IN THE GRADE OF Rs. 400-40-800-50-950 PLUS D.A. AS ADMISSIBLE UNDER THE RULES

23. One Lecturer in Education
24. Two temporary (likely to be made permanent) Lecturer in Journalism
25. Two Lectures in English
26. One Lecturer in Urdu
27. One Lecturer in Persian
28. One Lecturer in Philosophy (symbolic Logic)
29. One Lecturer in Political Science
30. Three permanent and one temporary (likely to be made permanent) Lecturers in Sociology
31. One Lecturer in Social Work.
32. Two Lecturer in Medieval & Modern Indian History
33. Two Lecturer in Physics
34. One temporary Lecturer in Chemistry
35. One Lecturer in Mathematics
36. One Lecturer in Business Administration
37. One permanent and one temporary Lecturer in Applied Economics
38. One temporary Lecturer in Philosophy
39. One part-time Lecturer in Sanskrit Proficiency on Rs. 150/ p.m.
40. One part-time Lecturer in Bengali on Rs. 100/ p.m.
41. One part-time Lecturer in Marathi on Rs. 100/- p.m.

Cont. on Page 24

UNIVERSITY OF RAJASTHAN, JAIPUR

ADVERTISEMENT NO. 5/72

Applications are invited (through proper channel in case of those already in employment), so as to reach this office on or before 31st August, 1972 in the prescribed form available from the Registrar's office on pre-payment of Rs. 4/- (Rs. 2/- extra if required by post) for the under-mentioned posts :-

1. PROFESSORS — Geography 1, Sociology 1, and Education 1.—in the grade of Rs. 1100-50-1300-60-1600. Qualifications (except for Education):—(i) A first or second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the subject concerned (ii) either a research degree of doctorate standard or published work of a high standard, and (iii) ten years' experience of teaching at a University or a College, or ten year's post-doctoral research experience and considerable independent published research work and some experience of guiding research. *Desirable*—Sociology—Specialisation in Sociology of Modernisation and Social Change and Sociological Theory. Outstanding contributions in the field through recognised publications.

Qualifications for the post of Prof. of Education—An outstanding scholar in his own discipline, who had a deep understanding of educational problems preferably as evinced through published work, research and books.

2. READERS :—Political Science—1; Philosophy—1; Public Administration—1; and Adult Education—1; in the grade of Rs. 700-50-1250. Qualifications (Except for Adult Education):—A first or second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the subject concerned, (ii) either a research degree of a doctoral standard or published work of a high standard, and (iii) five years' experience of teaching at a University or a College or five years' post-doctoral research experience and independent published research work and some experience of guiding research. *Desirable* : Philosophy—Specialisation in (i) Indian Philosophy through first hand textual knowledge of the Philosophical works in their historical perspective and also well-versed in contemporary western tradition or (ii) Modern Western Philosophy including European Philosophy, preferably having good knowledge of German or French, or (iii) Social and legal philosophy or (iv) Modern logic and Philosophy of Science. Public-Administration—specialisation in Research Methodology Development Administration/Personnel

Administration/Comparative Administration Analysis with research papers published in recognised journals.

Note :—(1) A teacher of this University who has been confirmed in his appointment and has been teaching the subject in the Department for a minimum period of five years will not be debarred by the qualifications specified in clause (i) by the phrase—"in the subject concerned."

Qualifications for the post of Reader in Adult Education—(i) A first or Second class Master's Degree of an Indian University or an equivalent qualification of a foreign University in Humanities/Social Sciences/Adult Education, (ii) either a Research Degree of a Doctorate standard or published work of a high standard, (iii) five years experience of teaching at a University or a College and some experience of guiding research in the field of Education with base for Adult Education, (iv) working knowledge of Hindi. *Desirable*—(i) Specialisation in Principles and Methods of Adult Education, (ii) Experience of University Adult Education and (iii) as much practical experience as possible in Adult Education in India.

3. LECTURERS :—Political Science—2, Geology—2 (upto 28.2.1974) and Law—1, in the grade of Rs. 400-40-800-50-950. Qualifications (except for Law) A first class Master's degree in the subject concerned or in an allied discipline of an Indian or foreign University, or a second class Master's degree with at least three years experience of teaching degree classes or accredited research experience of at least three years (Preferably a research degree or three year's experience of Statistical work). *Desirable* Geology—Specialisation in Structural Geology, petrology Preferably Metamorphic and Mineralogy.

Qualifications for the post of Lecturer in Law—A second class LL.M. degree of an Indian or a Foreign University. Preference will be given to candidates having teaching or research experience and those with special experience of teaching criminal law, personal laws, and taxation.

4. Research Associate in South Asia Studies Centre-1 in the grade of Rs. 400-40-800-50-950. Qualifications—A first class Master's degree in any of the Social Sciences, preferably in Political Science, of an Indian or foreign University, or a second class Master's degree

with atleast three years' experience of teaching degree classes or accredited research experience of at least three years (preferably a research degree or three years' experience of Statistical work). *Desirable*—Specialised knowledge of Government and Politics in Bangladesh.

Ability to teach in Hindi would be an additional qualification. Benefits of Provident Fund, D.A. and other allowances will be admissible as per University rules. For the Posts of Professors, it will be open to the University to consider the names of suitable candidates who may not have applied. Canvassing in any form will be a disqualification. Candidates will be called for interview at their own expense. Candidates are required to submit along with their applications a complete list (seven copies of all the research papers published by them) mentioning the name of the journal in which published and the year of publication, classified into 3 categories viz. (i) Published with senior authors (ii) published with junior authors, and (iii) published independently. They are also required to send a copy of each of their research papers and substance of the reviews, if any on their work published in important journals mentioning the name, year and issue of the journal alongwith their applications. Applications received after 31st August, 1972 will not be entertained. Those candidates who had applied for the posts of Professor of Sociology in response to our advertisement No. 1/72 and for Readership in Public Administration in response to our advertisement Nos. 2/71 and 1/72 need not apply again, but they may send on plain paper a statement of additional qualifications, if any, since acquired.

L. P. Valsh
Registrar

University News

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UNIVERSITY OF BOMBAY Department of History

Applications are invited for the post of Lecturer in History in the University Department of History in the grade of Rs. 400-40-800-50-950. The post carries the benefits of University Provident Fund, Dearness Allowance and House Rent & Compensatory Local Allowances at the rates sanctioned by the Syndicate from time to time. A higher starting salary may be given to a person possessing high qualifications. The appointment will be on probation for two years in the first instance.

Applicants must possess at least a High Second Class Master's Degree in History and should also have at least five years' experience of teaching degree classes. Specialisation in modern Indian History will be preferred.

Eight copies of the application in the prescribed form, which can be had from the Registrar, should be submitted so as to reach the Registrar, University of Bombay, Bombay-32, on or before 31st August, 1972.

Candidates called for interview will have to present themselves at their own expense.

Bombay, T. V. Chidambaram
University Registrar
2nd August, 1972

Banaras Hindu University Research Scholarships and U.G.C. Junior Research Fellowships

Prescribed application form for various Research Scholarships of the value of Rs. 250/- p.m. each and Jr. Research Fellowships of the value of Rs. 300/- p.m. each

for the session 1972-73 are available from the office of the Information and Public Relations Officer B.H.U. on pre-payment of 0.05 paise stamp and a self-addressed stamped envelope of the size of 9" x 4" only. The last date for receipt of application forms in the office of the Registrar (Development), B. H. U., Varanasi-5 is September 15, 1972.

Both the Fellowships/Scholarships are open to Registered Research Scholars of the University. Jr. Research Fellowships is, however, open to scholars prosecuting research in the Faculties of Arts, Social Sciences, Science, Agriculture, Music, Education Commerce, and Business Management, Oriental Learning & Theology and Law. The Research Scholarships are open to all students of the above Faculties and Engineering & Technology.

Eligibility : (i) *Jr. Research Fellowship* : First division marks at the post-graduate examinations and age below 30 years. (ii) *University Research Scholarship* : First division marks at the post-graduate examinations. Relaxable to 65% for research scholars in the Faculties of Arts, Social Sciences, Oriental Learning & Theology and Education.

The candidate should be prepared to engage classes as and when assigned by the respective Heads of Departments/Institution.

UNIVERSITY OF SAGAR Advertisement No. R.5/72

Applications on a prescribed form (obtainable from the undersigned on a requisition) accompa-

nied by a self-addressed envelope and a postal order of Rs. 5.00 are invited for the POST OF PROFESSOR OF HINDI under "Dr. Makhanlal Chaturvedi Chair" in the Department of Hindi sanctioned by the U.G.C. under IV Five Year Plan on the salary scale of Rs. 1100-50-1300-60-1600 with D.A. & P.F. benefits according to rules, so as to reach the Registrar, University of Sagar, Sagar (M.P.) before 31st August, 1972.

2. A higher initial start in the grade is permissible to an exceptionally qualified and experienced candidate.

3. The age of retirement is Sixty years.

4. **Qualifications :** The candidate must have—

- (i) A Doctor's degree and/or high academic attainments with wide recognition for scholarship and original contribution to the subject.
- (ii) Published works to their credit.
- (iii) Extensive experience of conducting and guiding research.
- (iv) At least 10 years experience of teaching post-graduate classes.

5. The candidates who have already applied for the post of PROFESSOR OF HINDI in response to our advertisement No. R.4/72 dated 7-7-72 need not apply again for the post now being advertised. Their applications already sent to this office will be considered.

(S. J. Naidu)
Registrar
University of Sagar.

Socialistic Democracy is the only true Democracy.

Each part of the community exists for the good of all, and not for its own separate interests. This spirit can give humanity as a whole the necessary conditions in which it can turn its best energies to its higher development.

—Sri Aurobindo



MY MOVEMENTS ARE INTERNATIONAL !



AIR-INDIA

UNIVERSITY NEWS

A CHRONICLE OF HIGHER EDUCATION AND RESEARCH

SEPTEMBER 1972

Sometimes one and one don't make two

By W. D. Miranshah

The tangent of modern culture is man's super-knowledge and its very close ally—super-ignorance. And often, the two are found at the same place. Those of us, who are at Delhi, have sometimes been a little too mute witnesses of this tragic truth—a tragicomedy, indeed!

The issue, this time, happens to be the College Councils, which have turned out to be more controversial than controversy itself. Unlike the Vice-Chancellor who thinks that they are a way out of trouble, the teachers believe it to be a way into it! The kind—and quantum—of dissent it has generated is frightfully disproportionate.

And, as usual, there are two parties. On the one extreme stands the Vice-Chancellor determined to set things right: more precisely, to convert the University into a sensible administrative feasibility. Far away on the other extreme, you find a whole community of academics ranged up in true commando spirit. In the opinion of this group, the creation of the proposed councils would be a step worse than India's partition! And there is a family friend, too: the Education Minister, who is repeatedly trying to keep everybody together and in good humour!

This about sums up the current picture of a world, strangely, of higher education and lower information. Matthew Arnold could not have been more wrong than today: is culture still "a goal or ideal...whereby man attempts to transcend the situation of his particular society and grasps the meaning of human existence itself"?

But to come back to what is happening. It is frankly not a question of who is right and who is wrong at that University; more particularly, it is the still more important question of *what* is right and *what* is wrong. *Prima Facie* neither party is entirely wrong; but equally as surely also is neither party entirely right. Both are wrong somewhere and right somewhere else.

The Vice-Chancellor has more than statistical justification for bringing about this new re-arrangement of the University's administrative structure. A half century of colleges to manage looks like a joke to those uninvolved. In today's situation, it is only the teachers, who can afford to be unconcerned, not the Vice-Chancellor. The best—or is it the worst?—part is that some new ones are coming, too! Whether the University will be able to hold its seams is a question which is likely to engage wide-spread democratic speculation. The

contd.

This is it!

By Sudhir Dar



"Need any help, Sir?"

Courtesy Hindustan Times New Delhi



ASK ANYTHING

(EXCEPT COLLEGE COUNCILS!)

standards are another great goal and quite as unlikely to be achieved as any other in this great country, unless the University does not let the colleges alone in the proper and true sense of that word—called decentralization. To create—or not to create—the College Councils, is a dilemma equivalent only to the one faced by that well-known Shakespearian character, Hamlet.

But decentralization would seem hardly to be a revolution. And it would similarly hardly justify the commando spirit so much observable in the adherents of DUTA. To think of paralysing the university was obviously a thought uppermost in the minds of some daring elements of that organisation but for the wise counsel of some. A total strike will be a total disaster; and not alone for the Vice-Chancellor: even students are bound to suffer by this negative action of their teachers more than they have been benefited by their positive ones—teaching, for instance.

And it is as well worthwhile recalling in this connection that the Vice-Chancellor has repeatedly made it clear

that the proposed College Councils do not have an academic but an administrative aim. The Education Minister too has assured them recently in Parliament that the Government was not intending to change the definition of the word, "teacher", although one would have been a little too easily persuaded to do so, had it been someone else in the liberal shoes of Prof. Nurul Hassan. A moderate man, he has ideas hardly modest; a good umpire he is and a good physician, too—he knows how to read the pulse

In all this topsy turvy—thoughtless melee, the greatest singular sufferer is the student. The irony of the situation is that the boot is on the other foot now—the teacher's! And Sudhir Dhar deserves a mention in *despatches* for echoing it so well in his cartoon. It is the one element that they tend to forget all the time; and it is the kind of factor which is ultimately decisive in most situations of modern life—and living. Will they ever—and this means all concerned—learn to desist from such a ruinous course of action?

WAY Gets Under Way!

The British Prime Minister, Mr. Edward Heath, said in Manchester the other day that a common task faced nations. It was to build bridges that would enable people to come together; to destroy barriers of fear and ignorance wherever they appeared; and to create a new world that would be one world—their world.

Mr. Heath, who was addressing delegates from more than 100 countries at the eighth World Assembly of Youth, said the enthusiasm of youth "ought to be regarded as a stimulus, even in the eyes of middle aged politicians".

Practical concern

The theme of the 13-day gathering is "Development - The Struggle for Justice". Workshops at the conference will deal with such topics as pollution, development, trade, aid and social justice.

Acknowledging that modern youth was better informed on world issues than ever in history and more prepared to challenge assumptions, Mr. Heath declared that any society which tried to repress the ferment of youth "will suffer in the quality of its achievements".

The main speaker at the closing session of the conference will be Britain's Secretary of State for the Environment, Mr. Peter Walker. Other speakers will include Mr. Maurice Strong, Secretary-General of the recent U.N. Conference on the Human Environment, and Lady Jackson (Barbara Ward), author and economist.

The World Assembly of Youth is a co-ordinating body of national youth councils. There are 65 of these councils in membership, and there are close links with another 50 national youth organisations.

MUSEUM AND ART GALLERY OF BURDWAN UNIVERSITY

Exploration & Excavation

Since the establishment of Museum & Art Gallery in 1965, the museum has taken a joint venture in the field of archaeological explorations and excavations with the Archaeological Survey of India (Eastern Circle), Government of India at Bharatpur in Burdwan district, 6 kilometers away from Panagarh Railway Station of Eastern Railway.

The excavation has brought to light a brick built *Stupa* of the 9th-10th century A.D. in a highly dilapidated condition. The square ground plan of the newly discovered *Stupa*, the first of its kind in West Bengal, resembles the typical Orissan style of temple architecture. The *Stupa* is *pancharatha* in plan. There are many niches all around the main *stupa* each of which is enshrined with a seated Buddha image. Few such Buddha images have been found from the debris of the *Stupa* just below the niches.

The main structure of the *Stupa* has been badly destroyed by the treasure-hunters, but the bare remains of its lime-plaster works and designs speak highly of its architectonic beauty and merit.

On the western side of the *Stupa* there exists the ruins of an early medieval monastic establishment of the Buddhists.

The antiquities collected from the excavated mound include a variety of objects, viz., seated Buddha images in *blunisparsa mudra*, terracotta animal figurines, iron objects, stone and glass beads, cylindrical bead of chalcedony, etc.

Collection and Acquisition

Further, Museum & Art Gallery has acquired a number of antiquities and objects of art, mainly historical. Of the stone sculptures collected in the Museum, special mention may be made of a two-armed standing Vaisravana belonging to the group of *Dhyani Buddha Amitava*, *Asta-Mukhalinga*, standing tri-bhanga Vishnu Nava-grahas, Durga, Lakshmi, Mahasena, Mother & Child, Buddha, Tara, Surya, Brahma, Siva, Varaha-Avatar, etc. Moreover, the collections of the museum are also enriched with wood-carvings, terracotta temple plaques, figures and figurines of c. 2nd cent. B. C. to 18th cent. A. D.

Section

The Museum has four sections representing (a) antiquities of Pre- and Proto-historic period, (b) Historical Arts, (c) Painting Gallery for Indian paintings, prints, and copies of European paintings including originals, (d) Terracotas and Folk Art.

Administration

The Museum & Art Gallery is controlled by a *Museum Committee* with the Vice-Chancellor as its *Chairman* and the Curator as its *Member Secretary*.

Working hours: Open from 10 a.m. to 5 p.m. in weekdays, it remains closed on Sundays and on public holidays.

Should Higher Education be Made Concurrent ?

R. P. Puri

Jawaharlal Nehru University

The present constitutional status bestowed on university education is over two decades old. Time is, therefore, ripe to take stock of its achievements or otherwise.

It would be wrong to take a complacent view of the matter for the facts tend to point the other way round. Indeed, the overwhelming opinion among educationists is that what we have achieved over the years is merely quantity rather than quality. Even in the matter of quantity, a great deal remains more to be accomplished. Thus unless we steer clear of complacency and make-believe, we will not be able to draw university education out of the present stagnation.

Almost all matters which play a crucial role in the life of a university have been, and continue to be, a subject of criticism. Sandwiched between the University Grants Commission and their respective State Governments, our universities are trying to solve their difficult problems. But the result of their endeavours has been less than encouraging. The scope of this discussion being limited, it is not possible to probe the various experiments attempted.

It goes without saying that the backbone of an university is the faculty—and research staff. An university will be unsuccessful in achieving its objectives if it is unable to maintain and improve the quality of its teaching and research. And yet, suprisingly, the selection of teachers and staffing procedures in universities are allegedly beset with widespread ineptitude and even malpractices. To quote the Committee on Model Act for Universities: "There is no part of the work in the University which leads to greater criticism than the appointment of its teachers."

The fact that over eighty-five per cent of university-level students study in colleges which employ about eighty-three per cent of the total number of teachers in universities, makes us shudder when, in matters of physical facilities and financial viability, a majority still remains weak constituents of the university system. How can standards be maintained without raising the quality of collegiate education? These questions are constantly engaging the minds of authorities. Any more passage of time will make the problem increasingly complicated.

Inaugurating the last Vice-Chancellors' Conference in April 1969, the Union Minister for Education warned that as the available resources were "distressingly" inadequate, this would lead to "deterioration" in the level of facilities in higher education. A lurking uncertainty surrounds the financial stability of State universities. So long as our Vice-Chancellors remain preoccupied with the task of wooing State Governments for funds, the universities cannot claim to enjoy any autonomy worth the name. The Kothari Commission has admitted "that through this source, the States can, and sometimes do seek to, curb the freedom of our universities."

The UGC appoints Review Committees from time to time not just to find out what merely exist but also to make suggestions for improvement. However, the usefulness of the these committee reports is not commensurate with the efforts. This is because the implementation of the recommendations of these Committees is left to the discretion of the individual universities. When with these Committees are associated distinguished academicians, it is surprising why their recommendations are not treated with the sanctity they deserve. Perhaps the directives of the UGC need to be clothed with suitable legislative powers for their proper enforcement so that we do not have to be told too frequently that the causes of the low standards of our education are out-dated syllabi and teaching methods.

Some time back the Government of India appointed a Committee to look into the question of the organisational set-up of our universities. The report entitled Model Act for Universities made several far-reaching recommendations, which were forwarded to universities for keeping in view while amending Acts. Evidently directions to universities were treated as optional, rather than obligatory. And the result was marked by the Gajendragadkar Committee on Governance of Universities (1971) "The Report did not receive adequate attention and its recommendations were, by and large, not implemented."

The mushroom growth of universities in the States has been criticised in different quarters because the considerations which prompt the

State Governments in establishing them have not always been academic. On the other hand, political and regional pressures influence these decisions of the Governments. Somehow the UGC has also been unsuccessful in its efforts to dissuade the State Governments from establishing new universities without consulting it beforehand. Obviously, the UGC needs to be empowered with greater authority.

Manifestly, there is need to make somewhat uniform rules in respect of important matters, some of which are provident fund/pension benefits, health services, sabbatical leave for higher studies and research by teachers, fairly well-defined qualifications for different categories of teachers for the guidance of selection committees, norms and conditions in regard to staff requirements and physical and other facilities in colleges, conditions governing affiliation of colleges with universities, and grant-in-aid code to regulate financial assistance to colleges. It would be administratively undesirable if it is left to State Governments to take decisions on these major matters without any central guidance and control.

In 1967 a Committee of M.P.'s. authored a report on Education making several recommendations which, among others, related to the abridgement of gap between university and college teachers, introduction of a uniform system of retirement benefits for them, improvement in the conditions of their work and service and their uniform application to teachers working under different managements, improvement in the recruitment procedures of teachers which ought not only be improved but should also be made similar in all institutions irrespective of their managements.

The need to reform the examination system was highlighted by the Radhakrishnan Commission as far back as 1948. The UGC Committee on examination Reform (1962) observed, fourteen years after the submission of the Radhakrishnan Commission Report that "while the need for reforming examinations had been recognised, little has been done so far to bring about improvements".

In 1968, a Committee of Members of Parliament recommended the undertaking of the amendment and modernisation of university Acts and completing the whole process in the next "two or three years". It further suggested that a convention should also be developed whereby State Governments should discuss their proposals for new or amending legislation in respect of their universities with the Central Ministry of Education and the UGC before they are introduced in the State Legislatures. Here again a central agency clothed with legislative powers must step in to coordinate this work.

In passing, it may be mentioned that the recommendations of this Committee have been incorporated in a Statement entitled *National Policy on Education* (1969). But if the recommendations and proposals made by the UGC are to be treated by universities not as directives but merely as routine instructions, these guidelines will remain unimplemented.

Last but not least, it has been argued time and again that the changeover from English to Hindi or other regional languages as medium of instruction at the University level should be effected. Unless an Indian language has grown into its full academic stature, it is unwise to introduce it as the medium of instruction at the University stage.

In a country like India, big in size and constitutionally federal, good government is feasible if powers are evenly diffused among the constituents of the federation. But if definite and uniform standards of efficiency and progress are not maintained in respect of certain subjects of national significance, the consequences can be perilous. If better results are to be achieved, it must be vested not only with a coordinating power but also with the authority which it can constitutionally exercise in making the State Governments act in accordance with the goals set by it under the direction of Parliament.

The Radhakrishnan Commission had recommended that Education, including universities, should be made a Concurrent subject. It did not favour making Education as a Central subject, for such an arrangement would have produced a "stereotyped unanimity and discouraged local initiative."

The arguments put forward by the Commission in recommending the Concurrent status for education were not accepted by the Constituent Assembly, and it finally recommended that the subject should be a State responsibility, the Central Government being responsible for the coordination and determination of standards in institutions for higher education or research, including scientific and technical institutions. Consequently, in 1963 a Committee of Members of Parliament on Higher Education (under the Chairmanship of late P. N. Saprú) examined the extent of responsibility imposed on the Central Government by the Constitution in the field of higher education. The Committee concluded that higher education should not be made a Central responsibility. Under this arrangement, if it had been accepted finally, the Union Government would have acquired some additional powers of enacting legislation, thus facilitating the coordination and maintenance of standards of University education in a more satisfactory way than it has been possible.

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The Semester System In Meerut University

By Prof. J. N. Kapur

Meerut University

(I have had the experience of working with the traditional annual examination system at Delhi University for about sixteen years; with the Semester System at I.I.T. Kharagpur for about nine years; with the Semester System at Carnegie-Mellon University, USA for one year and with the Semester System at Meerut University for the last one-and-a-half years. In each case, I have been actively involved in working out the details of the system. As such, it has been suggested to me that it may be useful, if I can give my objective reactions to the Semester System in Meerut University and to point out its strong and weak points, so that others who want to introduce the Semester System may do so, after taking all precautions for making it a strong instrument of examination reform in our country. The views given below are my personal views and do not represent the official views of the Meerut University—Author)

Some Features of the Semester System in Meerut University.

(1) The University hold three examinations in a year; in the last weeks of November, April and June.

(2) The two normal Semesters have about 95 working days excluding the period of examinations and the summer session is of about six weeks duration.

(3) All courses are framed on Semester basis except practicals in which examinations are conducted only once a year in April.

(4) Paper-setting is done by professors and readers of other universities and evaluation is done by the teachers of the university.

(5) For evaluation purposes, the teachers come to the evaluation centres and on each day each teacher gets for examination about 70 answer books for post graduate courses and about 40 answer-books for under-graduate courses. No answer books are sent to the homes of the examiners. For each course there may be 5-6 examiners and a Deputy Head Examiner and they can discuss the instructions for evaluation among themselves. In the case of M.A. papers, usually different questions are examined by different examiners.

(6) Tabulation and Collation are done by a computer and students get their marks-sheets as prepared by the computer.

(7) Since evaluation is finished within a fortnight of the examination, one copy of the marks obtained by students in each paper is sent to each college direct from the evaluation centre and students know their marks much earlier than they do in the annual system.

(8) There is a provision for re-evaluation, so that a student who wants to get his answer book re-

evaluated can do so on payment of a certain fee. His answer books are sent to two independent examiners from outside the university and the average of the marks given by the three examiners is awarded to him. If this differs by more than 15% from the marks given by the original examiner, the fee is refunded to the student.

(9) A student is required to secure 20% marks in each Semester course and 33% marks in aggregate of the four Semester courses in a subject in B.A. & B.Sc. and 36% of the aggregate of 8 Semester courses in the case of M.A. and M.Sc. If a student gets less than 20% marks in a course (theory or practical), he has to appear again in that course either in summer or when the examination in that course is held again in the university. In I.I.B., the student has to obtain 36% in each course and a minimum of 48% in the aggregate.

(10) Earlier there was a provision that if a student got more than 20% marks in a course, but his marks were not up to his expectation, he could cancel the paper and reappear, but this provision has been dropped now.

(11) In principle a student can join in the second Semester for those courses which are not dependent on the papers taught in the first Semester and where practicals are not involved.

(12) A degree student can get an honours degree by appearing in certain additional courses either during the regular term time or during the summer.

(13) General courses with about 12% weightage of the main courses have been introduced with the object of introducing inter-disciplinary courses.

(14) In principle, a student can earn advance credits by registering for courses in summer, even before the result of his qualifying examination is out.

(15) The student is expected to earn the degree in three years time and he has to apply for special permission of the V.C. if he has to take it in the

fourth year. In principle, some students can complete their courses in $1\frac{1}{2}$ years by using their summer time, but in practice no student has taken advantage of this provision so far, since the university has not allowed its use in order to get its degrees recognised by other universities for equivalence purposes.

(16) 75% attendance in each course in each Semester is required though in practice, due to exemptions granted by the principals and the Vice-chancellor, it comes to 60%.

(17) Computer is used to tabulate results in order to save time and for achieving possibly greater efficiency, accuracy and reliability.

(18) The following schedule for admissions, teaching and examination is observed :

	I & III Sem.	II & IV Sem.	Summer
Teaching to begin on	8th July	18th Dec.	15th May
Admission to close on	7th July	19th Dec.	15th May
Closing day of Semester	12th Nov.	15th April	30th June
Examination to commence on	19th Nov.	22nd April	1st July
Semester break from	5th Dec. to 19th Dec.	7th May to 6th July	20th June to 6th July
Working Days	95	95	40

(19) A student can re-appear in one additional course in a Semester though he can be permitted to re-appear in two additional courses, if he saves a year by this process.

(20) Award lists are prepared by examiners in quadruplicate of which two are sent to the colleges and two to the university office by the controller of the evaluation centre.

Advantages of the System

(1) The students become more serious and there is more regular study throughout the year. A student joins in July and has to appear in the examination in November and he becomes serious in the middle of August about his studies. In the earlier system, he used to become serious in January or February.

(2) Most of the students study very seriously and intensely for two months in a year as compared to the intensive study for one month in the earlier system. There are some students who study for a third month in the summer session.

(3) The wastage of the time of the students is reduced. About 60 percent of the students are able to complete the course in 2 years, about 80 percent complete it in $2\frac{1}{2}$ years and more than 90 percent complete in about 3 years time. This is achieved without lowering the standards. In fact, in this system a student has to obtain not only 33 percent marks in the aggregate, but also 20 percent in each paper of a subject.

(4) External paper-setting sets the standards, while internal evaluation enables the examiners to moderate the results to some extent.

(5) The colleges have more or less the same number of students in each Semester and it has had a healthy influence on the finances of the colleges.

(6) In this system, the teachers also get more money from evaluation work, as almost the whole of evaluation work is done by them. Almost ninety percent of the teachers are involved in evaluating answer-books and get valuable information from this process which can help them in improving their teaching. In affiliating universities with annual examinations, some times sixty percent teachers do no evaluation work and are thus deprived of both valuable experience and money.

(7) Since the answer-books are examined at the evaluation-centres, there are no complaints of approaches to the examiners by the candidates.

(8) This system enables the teachers to meet at common centres 2 to 3 times in a year and make them feel that they belong to a common university, since otherwise contacts between teachers of the same subject of an affiliating university are not always common. These frequent contacts have enabled the university to organise many successful subject conferences at a research level in the evenings during evaluation time.

(9) Teachers do evaluation work for 5-6 hours a day in the morning and can spend 2-3 hours in academic discussions on topics chosen in advance. This encourages development of an academic atmosphere in the university.

(10) There is more uniformity in marking here and the evaluation is on the whole fair as the university sees that only those teachers who are teaching the subject at present are called upon to evaluate the answer books. This cannot always be ensured in the system where some of the examiners from outside the university are chosen on the basis of their seniority rather than on the basis of their teaching a particular paper in the current year. This also prevents evaluation of answer books by persons other than teachers. When answer-books are sent to the homes, there is no means to ensure that less qualified persons may not be examining the scripts.

(11) The fairness of evaluation is justified by the analysis of the results of re-evaluation. Generally

marks in about 20 percent of the answer books remain unchanged and in about 40 percent cases, they are increased by 1 to 5 percent, in 35 percent they are decreased by 1 to 5 percent and it is only in 5 percent cases that the changes in marks are beyond 5 percent. The small departures can be explained by randomness and subjectivity in evaluation. In the other system, there is no careful analysis of the standards of marking adopted by different evaluators.

(12) This system enables the colleges to prepare a larger number of students, since wastage is reduced. In the earlier system, failed students occupied many of the available seats and therefore chances for admissions to new students were reduced. In our country, with limited resources, we have to make the best use of the summers by giving advanced credit courses.

(13) Semester System is more convenient for those who appear through correspondence courses or as private candidates, because in this system, they have to appear at regular intervals. Even regular students prefer to appear twice a year so that their memory is not strained to the same extent as is the case, in the annual examination system.

(14) The concept of "failure" has been eliminated from the system and this has had a psychologically healthy influence on the minds of the students. Of course, some persons are very much worried by the fact that a student never "fails" in this system.

(15) There is a greater variety of courses being offered and there is greater flexibility in the system than is normally possible in universities. A greater number of teachers participate in postgraduate and advanced level teaching than was possible earlier.

(16) There has been some encouragement to the introduction of the inter-disciplinary courses. Advantage has also been taken of the introduction of the system for rationalising, and modernising of the curricula.

(17) The students are reported to be making greater use of the library than they used to do previously. However sufficient data are not available on this point.

Disadvantages of the System

(1) It increases pressure of work on the college and university offices. They have to work round the year for holding the examinations and declaring the results of the candidates.

(2) Since the system is new, everybody takes some time to get adjusted to the system and this causes difficulties in the first one or two years.

(3) The combination of the almost-perfect computer system and the not-so-perfect human system leads to difficulties in working with the computers. A

mistake made by the superintendent or an examiner can be corrected by the human tabulator, but the computer will not automatically correct it, though it will detect the error much more efficiently.

(4) Sometime, the examiners at evaluation centres, make errors in transferring marks from the answer books to the award sheets or they enter the marks against the wrong roll number or they show somebody as absent when he is present. These award sheets are sent to colleges and to the computer centre. The computer and the office detect some of the errors and these are corrected. However, the student finds discrepancies in the marks received by the college and marks as shown by the computer and are naturally worried about this.

(5) The office has to coordinate the results of 4, 5 or 6 examinations in which the student may appear before he gets a degree and this leads to problems at times. In practice, there has to be further co-ordinations between the marks sent to the colleges and marks as finally corrected and prepared by the computer. Sometimes it means co-ordination between twelve sets of marks.

(6) Though by central evaluation, uniformity of standards in marking is obtained, the atmosphere at evaluation centres may not be conducive to concentration by the evaluators, as they have to work in a room where 4—5 other evaluators have also to work.

(7) A student studies a Semester course and after that he has no need to revise that course, while in the system where there are annual examinations, a student may revise some of the earlier courses more often. In other words, the overall knowledge of a student in a subject is tested to a smaller degree than in the other system. To remedy this, it had been suggested to introduce oral examinations and thesis at the post-graduate stage.

(8) Since in this system nobody fails, it is possible that some students who have not attained a certain standard may reach the next Semester class. However the 20 percent minimum pass marks in every course is being insisted upon.

(9) It is essential for the success of the system that the number of holidays should be reduced to a minimum and the working days be increased. In view of the various unexpected holidays and the lack of seriousness, the number of working days in many cases goes down to 80 or even to 70. Fortunately there have been no student disturbances in the university since otherwise these will be more harmful to the Semester System than to the annual examination system.

(10) It is sometimes claimed that one of the objectives of the Semester System is to keep the students busy and to reduce the chances of students organising strikes. It is true that one of the objectives is to get the students busy, as this is a desirable academic

objective, but the Semester System has not been introduced, nor it should be introduced just to reduce student disturbances. For that, we will have to find out the root causes and remove them rather than introduce the semester system as a remedy.

(11) It is alleged that the system has increased the use of made-easy books and the study of standard books has been reduced. Enough data are not available on this point. Even if the facts are correct, it is not clear whether this is due to semester system or due to change of medium since standard books are not available in Hindi to the same extent to which they were available in English or it is due to lack of motivation of students for excellence in education.

(12) Because of lack of finances, full use cannot be made of the flexibility of the normal Semester System. In particular, the total number of question papers cannot be changed significantly and so courses which are broken up for the purposes of teaching have to be recombined for purposes of examination.

Characteristic Features of the semester system in IIT's and Foreign Universities which are not in the present system at Meerut University.

(1) There is no internal assessment. In fact due to the affiliating nature of the university, an effort is made to see that a teacher does not examine his own students. There have been some cases where teachers are alleged to have given less marks to the students of other colleges. These cases, however, are very few.

(2) There is no overall assessment of the students work done throughout the Semester, as the result of the Semester depends upon the papers he takes in the university examination. There is a mid-semester test in the colleges, but its marks are not counted and so it is not taken seriously by the students.

(3) There is no system of grades and in the present system the performance of the students determines subjectively the standard of marking of the papers.

(4) Even in the case of practicals, where the teachers concerned are associated, there have been complaints of pressures on the examiners. Unlike IIT's and foreign universities, where most of the students have no local influences, here almost all the students in a college have local influences and these influences are sometimes misused by the teachers, parents and guardians. In the present system, these influences are not effective except to a very limited extent in the practicals.

(5) In foreign universities, due to the internal assessment, not much time is wasted in the examination and usually a week in each Semester is enough for this work. Here, because of the need for co-ordinating the standards in different colleges and the external examination system, more time is needed by

the examination. In fact, the teachers are quite busy in this system in teaching in the Semester time and in examining answer books during the semester breaks. The teachers feel strain, but at the same time do want to supplement their income by the remuneration they get from evaluation of the answer-books.

(6) There is no system of 'Credits' and all main courses have the same number of contact hours. No account is taken of the hours required for home study in curriculum planning.

(7) Though marginal flexibility has been built into the system, there is still a great deal of rigidity and students take same fixed combination of courses. This is partly due to the rigidity in the system in neighbouring universities and partly due to the inertia in the thinking of the public and the employers. There are also the problems of lack of physical accommodation in the colleges and of lack of management capabilities needed for a flexible system.

Some Suggestion for Improvement

(1) For the success of the Semester system, holidays should be cut down drastically and a certain minimum number of lectures in each subject should be insisted upon.

(2) The office staff in a university using Semester System should be increased by about 30 percent as compared to the university which is following the annual examination system. In colleges, also there should be corresponding increase in the office staff.

(3) The increased cost may be met either by the government or by a slight increase in the fees from the students. In Meerut University, there was no increase in fees and the university agreed to have two examinations and charge the same fee as was done earlier for holding one examination. The increased cost is justified by the reduction in wastage of student's time.

(4) Strict discipline is to be observed at evaluation centres and one way of doing this will be to have more space at the disposal of the evaluators. The possibility of allowing evaluators to take some answer books to their homes at night may also have to be examined.

(5) Some internal assessment is also to be introduced in the system. Thus during each Semester, there may be 2—3 one-hour tests for each course in the Semester by the teacher in his own regular teaching periods. These should be evaluated by teachers and returned to the students so that they can see that answer books of all the students have been marked with the same standard. Some of these tests may be based on library reading by the students so as to encourage use of the library in the colleges. These tests may carry up to 50 percent marks and the remaining 50 percent should be based on a paper set by the external examiner. This will lead to regular study through all the semester.

(6) Some system of moderation of internal and external marks will have to be developed so that the teachers may have no tendency either to be strict or lenient.

(7) More objective-type questions will have to be introduced in the examination papers.

(8) Oral examinations and project reports will have to be given greater importance.

(9) Root causes of students indiscipline will have to be removed with sympathy so that the studies during the Semester are not disturbed by extraneous causes.

(10) There should be only two types of courses, the main courses to run for four Semesters and half courses to run for two Semesters. Some of these courses have to be job-oriented to the needs of the society.

(11) Summer courses have to be organised more systematically by a central agency and should not be left to the colleges. Since the number of students in summer in each college need not be sufficiently large and as such a number of colleges should cooperate among themselves in running the summer courses.

(12) For making advance credit system more efficient, sufficient publicity has to be given and the office has to be strengthened to keep record of advance credits.

Concluding Remarks

(1) What has been described as the Semester System in Meerut University is a complex system. There are many features of the system which can be used even in the traditional annual system of examinations. Thus central evaluation, use of computers, re-evaluation, can be used in the annual examination system also. It will, however, be difficult to reduce the wastage and increase the utilisation of summer in the annual system.

(2) Meerut University has now about 75 000 students in 56 colleges and the conduct of three examinations in a year for these students and the co-ordination of the results of these examinations has been a great strain on the university resources. There have been frequent complaints of delays in the receipt of marks sheets and degrees by the students. Though more than 99 percent of the students receive the degrees in time, yet delays, in the case of 1 percent students, are intolerable. However, we have to remember that co-ordination of the results of 5-6 examinations for one student is more than three times as difficult as co-ordination of the results of the usual two annual examinations in the case of most of the universities. Considering this, the success of the Meerut University in achieving even this percentage of success appears remarkable. This has been made

possible by the dedicated work of the office staff of the colleges and the university. However, the strain on the system is so much that there is a fear that the system may break down unless immediate steps are taken to simplify the system and to increase the input of resources into the system.

(3) For simplifying the system one of the suggestions is that summer examination should be abolished. Since this examination is held before the results of all the papers of the second and fourth Semester examinations can be declared, the students cannot fill the forms in time. The number of students appearing in the examination cannot be estimated. This time there were 60 papers in which no candidates appeared and in an almost equal number of papers, in which less than 10 candidates appeared. The evaluation of answer books in first and second week of July keeps the teachers busy and delays the starting of classes in the colleges so that teaching work suffers. The results of summer examination cannot always be declared in time to be useful to students for admission to university classes. The existence of the summer examination makes some students less serious during the Semesters as they always hope to make use of this examination to make up for any failures in the Semester examinations. The college teachers also want some time in summer to relax, and study and if they are busy in invigilation and evaluation, they do not get this time. The summer examination has not also fulfilled this main purpose of encouraging summer courses since the colleges, busy as they are in connection with examinations, are not interested in starting summer courses and courses for advance credit for students. In view of all these factors it is desirable that summer examination should be abolished and the university should conduct only two examinations in a year. This should enable the university give marks-sheets and degrees in time.

(4) We have also to remember that no other university in the world holds an examination in summer except for courses which are actually taught in the summer Semester. Meerut University should also be prepared to give this facility of summer courses and to encourage starting of regular courses in summer in those colleges which are prepared to give this facility to their students.

(5) However, the summer examination has one advantage for the students, namely those students who fail to secure 20 percent marks in a Semester course may clear this course in summer. The University should have a policy that all those who pass their courses in the first attempt should complete their degree requirements in two years while others who fail in one or more courses may take $2\frac{1}{2}$ years to complete the requirements. A student who fails in a course in the first Semester may take the examination, in this course along with the third semester examination. Similarly a student who fails in a course of the second Semester may take the examination in it along with his fourth Semester examination. A student who

fails in a third Semester course can take it along with the next third Semester examination, thus completing his degree requirements in 2½ years. However, a student who fails in the fourth Semester examination or who fails to make up the aggregate may require three years in all. To prevent this, the university can hold a one-day special examination just prior to the third Semester examination in which every paper of the fourth Semester for which students have registered can be held. This may be similar to the supplementary examinations of other universities. Students who register for this course may be provisionally allowed to take admission in the next class.

(6) A second suggestion for simplification of the system is that students should not be allowed to seek admission direct to the second Semester. This permission is even now not given in courses which have practicals and in those subjects where first Semester courses are pre-requisites for the second Semester courses. In other subjects, also there is a demand on academic grounds to stop this practice. For the present, the university can discourage such admissions and need not give any special facilities for such students. Thus, a student who gets admission in the second Semester and fails in a course in his last Semester will take three years to complete his degree requirements.

(7) The increase in input of resources can be by the following means :

- (a) Increase of fees of the students enabling the university to increase its staff to cope with the heavy work involved in connection with the semester examination.
- (b) Additional financial grants to the university by the Government. This will be justified since the Semester System leads to the saving of time of the students and thus leads to addition to our national resources.
- (c) The acquisition of a computer by the university. Today the university has to hire time on computers of private companies. If the university has a computer of its own,

it will not have to depend upon outside agencies and this will considerably increase the efficiency of the Semester System.

(8) The success of any system depends upon the persons who operate it. The students, the teachers, college managements and the office staff have all to cooperate in making any system a success. Whatever, be the system, unless the students and the teachers have a desire for learning and are prepared to put in hard work, the system cannot succeed. There is no doubt that the Semester System is more demanding of the teachers, students and the office staff than the annual system. If all the parties are interested in improving standards and are prepared to put in harder work, the system can surely be an improvement. On the other hand, if the students are not well-motivated, if the teachers consider every increase in work as a burden and if the office staff cannot give its wholehearted cooperation, the system can lead to more problems than it can solve. The essence of any educational system is the dedication and devotion of students and teachers. Examinations are just a means to provide motivation for regular study. In this sense, the Semester System does provide motivation for more regular study than the traditional system.

(9) There is a great deal of interest in the semester system of Meerut University. The U. P. Educational Commission is reported to have recently decided to conduct a survey of the Semester system in Meerut University before deciding on the adoption of this system in other state universities. Some colleges in Meerut University and Himachal Pradesh University have expressed an interest in holding three-day conferences on the Semester System. The present report may be helpful in such discussions and surveys.

(10) However this report is still subjective and qualitative. Meerut University has enough records which, on being analysed statistically, can give a great deal of useful information. The university should get UGC assistance in carrying out such a quantitative survey.

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The situation has apparently changed lately. The present Government whose position is not so vulnerable as it was some time back is now placed in a better position to amend the Constitution. Such an amendment making the administration of higher education, including universities, a Concurrent subject would be in

consonance with the recommendations made by several high-powered Committees from time to time. Any system which is averse to innovations is no system at all. Having tried an arrangement (i.e., assigning education to the States) for over two decades and having seen its drawbacks, it is time to embark on the proposed alternative of making higher education a Concurrent responsibility.

PAU to organise a big Kisan Mela this month

In view of national celebrations of the Silver Jubilee of India's Independence, the PAU which organises a Kisan Mela for rabi crops every year for a day will this time have a two day fair. The State Government has planned an impressive exhibition for the occasion. Thousands of farmers from all the 115 blocks of Punjab will arrive and watch the Mela. The Centre has also ordered its various research laboratories and some others to organise open days for visiting farmers who should be benefited by lectures and demonstrations as part of their education. "The Kisan Mela is one of the efforts," according to the directions of the Government, "to discharge a great debt of the people who have built up these institutions with labour, money and sacrifices during all these 20 odd years after Independence."

Most universities this year celebrated the Silver Jubilee of India's Independence. Here (fifth from left above) is seen the Kurukshetra University Vice-Chancellor, Dr. S. K. Dutta and the academic community (with some of the students).

● A glimpse of the programme. (right)

Strike while the iron is Not !

Quite a peculiar case paralysed the activities of that big, sprawling, calm city called Ahmedabad. It was a strike in which even teachers were with students! The strike was called to back their demands. The other usual ceremonies such as dividing themselves in two batches courting arrest, organising a relay fast in front of the local PCC offices and setting even a bus on fire were duly observed. Otherwise, it is said, the strike was peaceful! Strikers wanted statutory corporation for the management of secondary schools and colleges and a greater say for universities in college management.

NSS Functioning to be Evaluated— IUB appoints Expert Committee

At the meeting of the Standing Committee of the Inter-University Board of India & Ceylon held on September 5-6, 1972 about 11 Vice-Chancellors representing different zones in the country attended.

The progress made with regard to the National Service Scheme, National Cadet Corps and National Sports Organisation programme was reviewed. Some of the bottlenecks like administrative arrangements, financial handicaps etc. which came in the way of effective implementation of the NSS Scheme were brought to light. With a view to studying the whole matter in depth and evolving proper guidelines which could be followed by the Government, it was decided to take a depth study of the problem and survey the situation at present prevailing. In fact it was decided that at the next meeting of the Board to be held in January-February 1973 one day should be devoted to organising a seminar on "Students Programmes in Universities and Colleges with special reference to NSS, NCC and NSO".

All about invigilation work...

One of the interesting issues that came up at the Standing Committee meeting was whether a college teacher could refuse to take invigilation work relating to examinations. A good deal of discussion took place. The Committee came to the conclusion that for evolving a healthy corporate life in the universities and colleges, the educational process had to be viewed in its entirety. If this objective is borne in mind it would become clear that all work connected with invigilation, examination, setting of question papers and other extra curricular

activities where teachers are assigned duties, all become component parts of the total educational process. The fact that some remuneration is at present given in many of the universities for undertaking such work, does not go against the spirit of the whole process.

At the same time, however, it was emphasised that in view of the prevailing social tensions it was the duty of the university to ensure the safety of a teacher who undertook such work.

And Structure Too

The structure of education in the country came unstuck about two decades ago. The Radhakrishnan Commission recommended that the total span of education should be 15 years—11 years for schooling, 1 year for pre-university and 3 years at the B.A./B.Sc. level. This pattern had been followed for quite some years in the various Southern States. What the Radhakrishnan Commission recommended was sought to be extended to other States also.

In consequence of this recommendation, except U.P., all other States adopted it. The University of Bombay too refused to conform to this pattern. But apart from these institutions the rest switched over to the new pattern. To cut a long story short, the Kothari Commission reporting in 1966 also advocated 15 years for a Bachelor's degree. The situation has got somewhat complicated in recent years because Bihar, another populous State, switched over to the U.P. pattern. A few other States of the Union are also thinking in these terms.

contd on page 28

"Students Services Part of Citizenship Training"

Dr. D.J. Reddy of SVU

On July 31, the SVU hosted the 2nd All-India University Medical Officers' Conference held under the auspices of World University Service.

Inaugurated by Prof. V. Ramalingaswami, Director of All-India Institute of Medical Sciences, New Delhi, the conference was chaired by the Vice-Chancellor, Dr. D. J. Reddy.

Dr. Reddy described the occasion as an instructive get-together for students and the faculty for knowing more of the activities of the World University Service in the areas of health and education; and the cultural and social aspects of student life.

Dr. Reddy viewed student services in the university as part of training in democracy and citizenship. He strongly recommended the setting up of WUS centres "without further delay" at all universities—and even outside. They could manage book banks, stores and canteens; and he assured his audience that the conclusions reached by the Conference would be implemented fully by his university.

The Executive Secretary of the WUS, Mr. V. N. Thiagarajan, who was present on the occasion, spoke of the various activities of the World University Service.

On the other hand, Prof. Ramalingaswami referred to the role of students as one intimately linked with total upliftment of the community: what was needed was "a system of community-oriented education which must be directly and unmistakably linked to the socio-economic goals of the nation."

Dictionary of National Biography

**8 Lakhs in cash and
Nine Years in Time**

Under the aegis of the Institute of Historical Studies, Calcutta, Dr. S. P. Sen released the first volume of the dictionary on August 13 on the occasion of the silver jubilee of Indian Independence. The first-ever four volumes of a dictionary of national biography covering the momentous period of 1800-1947 have cost 8.5 lakhs in money and nine years in time.

According to Dr. Sen, who briefed reporters on August 12, the Dictionary has some 1400 entries on eminent Indians from politics to literature and education to social reforms.

Three more volumes of the dictionary, written by 350 contributors, will be out soon; the last one in April 1973. The idea of limiting the Dictionary period was deliberate, according to Dr. Sen. Besides, the Institute was thinking of commencing work on the 25-years period after Independence to go as a supplement with the main Dictionary. He mentioned that such supplements would also be brought out at regular intervals.

Although it was modelled on similar books in other countries, the present Dictionary, unlike them, does not exclude people who may be still living.

Dr. Sen considers the volume as a "grateful homage of the present generation to those illustrious men and women who have contributed to the making of modern India."

Kerala University appoints a Commission

The Syndicate of the Kerala University has decided to appoint a Commission to look into the charge of Private Managements that they were unable to re-open their colleges due to disabling financial distress and, at the same time, to ascertain whether the charge was tenable. The Managements had put forth this plea while replying to show cause notices issued to them by the University after they had defied its directive to re-open the colleges. Under the statutes, the University could initiate action against Private Managements for defying its directives only when a duly constituted Commission is appointed by the Syndicate.

Price Support

The Indian Council of Social Science Research has sanctioned a project of the Department of Economics, Ravishankar University for studying the "Problems of Agricultural price support policy in the tribal area of Madhya Pradesh, with a special reference to Bastar District." An amount of Rs. 30,000/- has been allotted to the project. It is hoped that the project will be completed within 18 months. Dr. C. S. Mishra, Reader & Head, Deptt. of Economics, Ravishankar University, is the Project Director.

COMMISSION TO INQUIRE INTO SHOLAPUR COLLEGE AFFAIRS

Chief Minister Naik of Maharashtra announced the appointment of a Commission of Inquiry on the floor of the house on August 18 "to go into financial and administrative affairs of Dr. Vaishampayan Medical College, Sholapur."

The Commission will also ponder the possibility of taking over in 1974 six privately-run colleges. Consisting of three members, the Commission is headed by the Bombay University Vice Chancellor, Dr. T.K. Tope.

It is expected to submit its report within three months.

According to reports the Chief Minister said that the Commission was also likely to inquire into the affairs of another college—a medical college run by the Nagpur University at Nagpur.

Among the major terms of reference of the Commission are :

(a) considering the question of giving more allotment of seats on merit to the students of Shivaji University ;

(b) to go into the question of capitation fee and its possible side effects, particularly on merited students from weaker sections of society and ;

(c) to consider taking over the college in the beginning of the fifth plan, i.e. in 1974.

Central Library Birla Institute of Technology and Science, Pilani

Hemant C. Mehta,
Librarian

The Birla Central Library which was established in 1948 to serve the needs of Birla College of Science, Commerce and Pharmacy, Birla College of Arts and Birla College of Engineering became the library of the Birla Institute of Technology and Science in 1964. As the institute is given the status of 'deemed university' the library has to be developed at the level of a university library.

With a view to achieve this aim, the authorities of the Institute involved themselves vigorously in bringing about the change from a small college library to a standard university library. This is revealed by increasing investment made in the form of increasing expenditure for library right from 1964 to this date. In 1964-65 the library budget was only Rs. 60,000 and now it is about Rs. 4,00,000.

With the generous help of the University Grants Commission for books, periodicals and back volumes of learned journals, it was possible to update the library and meet the increasing demands of students and teachers.

From 1966-67, under the BITS-MIT-Ford-Foundation Programme the library received a massive dollar support for purchase of books, periodicals, back volumes of periodicals, equipments for reprography unit viz.—Magnaprint reader, IBM Document Viewer for microfiche and 3M Photocopier. Under this dollar aid it was possible to acquire all the back volumes of important learned periodicals on Science and Technology currently subscribed by the Institute. The back volumes are acquired from 1950 to this date.

Location

Upto 1965 the library activities were managed in one wing of the Institute building. In 1965 a separate and independent wing was given to the library to accommodate more readers. Again in 1967 both the wings which were not suited and planned for the library operations, were renovated to make it possible for operating the library. The carpet area of both the wings together is about 22,000 sq. ft. which can accommodate about 300 readers and 1,30,000 books.

Resources of the Library

The library has now 1,18,000 volumes. The average annual book budget from all sources (i.e. Institute UGC and Ford Foundation) for the last three years is Rs. 3 lakhs. The book collection is especially

strong in Mathematics, Physics, Electrical and Electronics Engineering, Mechanical Engineering and Business Management.

It subscribes for 1,000 learned periodicals on Science, Technology, Social Sciences and Humanities. The back volumes of these learned journals are available from 1950 to this date.

The library has 3,500 microfilms and a complete and updated set of Thomas Microcard collection of the Catalogues of American Manufacturers. These Catalogues of American Products, equipments and spare parts of equipment give detailed description of the products, their line drawings, photographs and detailed dimensions etc. This is an extremely important and useful acquisition of the library. For a library of higher technical education engaged in post-graduate and research activity in Engineering and Technology this collection of microfiche is a must. With the help of the printed Product Index of the entire set of microfiche no special classification, cataloguing or subject indexing is necessary. If the approach is by the product the product Index will help to locate the desired microfiche of the product. If the approach is by the name of the manufacturer the product index has separately listed in an alphabetical order the names of the manufacturers giving the corresponding microfiche number. These microfiche can be read with the help of the IBM Document viewer with the same speed as we read an ordinary printed page of a book.

Staff and Services of the Library

In 1967, for the first time in the history of this library, the library staff was cast into the functional organizations with a definite responsibility for acquisition, processing, circulation and reference service. The strength of library staff is 36. The break up of 36 members is :—

10 Professional

12 Semi professional & non professional

14 Peons and attendants

36

The library operation is divided into two broad divisions.

(1) Technical services—i.e., the staff that works behind the screen to acquire, classify and catalogue library material and

(2) Readers' Services—Circulation and Reference Service.

For classifying books the 17th edition of the Decimal Classification is followed and a dictionary catalogue is maintained for the public use. The public catalogue which was simply a show piece in the past became one of the most effective tool for the readers. Professional men on floor duty are always ready to help the readers in consulting the catalogue.

The library is truly pulsating with activity. It has given a dramatic evidence of the fact that a good, well organised library is a powerful instrument for creating habits of scholarship and self study in a large number of students. The library statistics of resources and services of the library given below will amply prove the above statement.

Library statistics showing the progress of the library in terms of resources and services from 1964-65 to 1970-71 is given below.

	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
1. No. of books	73,320	75,939	82,860	89,080	95,234	1,05,626	1,14,858
2. No. of periodicals subscribed	275	300	575	775	825	850	1,000
3. Microfilm, Microfiche, Maps, Charts	Nil	Nil	Nil	Nil	2,500	2,700	3,500
4. Library Space	9,000	9,000	16,700	16,700	21,000	21,000	22,000
	sq. ft.	sq. ft.	sq. ft.	sq. ft.	sq. ft.	sq. ft.	sq. ft.
5. Reading Seats	100	100	150	150	260	260	310
6. Books issued	29,101	35,878	67,484	74,755	1,18,881	2,62,157	2,88,879
7. Registered Borrowers	1,967	2,310	2,567	2,901	2,923	3,052	3,158
8. Readers visiting the library	68,818	75,102	77,591	98,071	1,20,730	2,70,890	3,23,415
9. Reference queries bibliographies	500	700	850	1, 50	1,800	2,500	4,500
10. Growth of Indexing & Abstracting periodicals	7	20	20	35	35	45	48

Usual queries of reference nature are being attended by the reference staff but a modern approach of giving proper and relevant assistance to the educational programme and research activities of the various departments is also followed with good results and healthy response from the faculty and the departments. In this new approach to reference service the research scholars, faculty and the departments discuss with the Library staff their changing and increasing library need for a programme or a research activity. This enables the library staff to educate themselves about the changing need of the research activity and at the same time help the faculty and the research scholar to know from the library staff, what to use and how to use the different abstracting, indexing services and a large number of bibliographical tools available with the Library.

The library has Kodak magnaprint reader for reading microfilms. This works both as a reading equipment as well as printer for the microfilms. With the help of interchangeable lenses with 11.8x, 13.7x, and 19x magnifications the reader printer can give prints of 11 inches x 11 inches size from 35 mm. and

16mm. microfilms and microfiche. The reader printer has an automatic device to give prints.

With the help of 3M Photocopier photocopies of periodical articles, important chapters of books etc. and other documents can be obtained within four seconds. The photocopying service is a great help to the departments, research scholars and students and staff of the institute. Average 110 copies per day are supplied. Over and above this load of institute work of photocopying nineteen universities and institutes of higher education from different parts of the country requisition photocopies of learned periodical articles from our own holdings of periodicals. Such requisition roughly comes to 120 per month. The photocopying service is also rendered to other scientists, engineers and scholars to assist them in their scholarly pursuits.

Library Service to Industry

Under this programme library provides library service to industry. Many of our industries do not

above in library service. Some industries have Research and Development wing but they are also not properly backed by the laboratory and the library, with the result that we are in danger of losing the advantages which scientific and technical research is trying to give to industry. In the initial stages we have selected only a small group of industries for this purpose. This service is extended by means of publications, abstracting journals, bibliographies, indexes, journals, maintenance of information centres, carry out literature search and reviews, work on the information needs of scientists providing for consultant services for establishing a library and information service for day to day needs of the industrial firms.

Library Committee and Librarian

The Library Committee of the Institute is a body appointed by the senate of the Institute and it is a recommendatory body. It suggests to the authorities from time to time for the provision, improvement and updating of the entire library operation to enable

the library to discharge its responsibility towards the educational activities of the institute as a whole.

Usual practice of forming the Library Committee in Indian Universities is to have the Vice Chancellor, the Director or the Dean as the Chairman of the Library Committee and Heads of all departments as the members and the Librarian is either a member-secretary or simply a secretary. The formation of the Library Committee of the Institute is an innovation. The Librarian is the Chairman and one member nominated from each department works as the member of the Library Committee. He is the link man of the department with the Library. Education is a single entity and it has no relevance in terms of one department here or a faculty there. This concept is very clear before the Library Committee in all matters relating to library policy and procedure. This does not mean that the departmental needs are to be sacrificed but the department has to balance library needs in the light of its programme.

The Librarian is the member of the Senate and is considered to be an Academic Staff.

No place for students in Corbusier's Chandigarh

Within less than two decades Corbusier's dream of giving Chandigarh citizens a sense of space has come crashing down. The situation is that colleges are facing quite an acute shortage of hostel accommodation. According to the principals of local colleges, there was unprecedented rush on admission, even when it was kept very selective this year—most of them were first divisioners.

Foreign students numbering some 500 have also joined from 18 different countries—some from Malaysia, Mauritius; quite a number from Iran, Iraq, East Africa, Afghanistan; and a few also from Thailand and Ceylon. The admission was given to these foreign students only when they were duly sponsored either by their own or the Indian Government. According to one principal; a number of them were rejected because they come to join the college on their own.

Prodigal sons return home

—ONLY HALF OF THEM THOUGH

Half of the number of Indian scientists-settled or residing abroad refused to be lured by the olive branch held forth by the Indian Government beckoning them home—indeed, only half of the number of all those who had enrolled themselves in the National Register of Scientific and Technical Personnel during 1971 actually came home.

Doctors seem to be guided by the higher incidence of disease, not higher salaries; out of 3,385 doctors expected back last year, only 1,835 actually returned. Out of this number, 66 per cent came from Britain. Some of them got disillusioned immediately and went back soon after they had come. At least 125 specialists found no "suitable" jobs in India.

The main culprit for this flight of Indian talents abroad is the absence of research-oriented facilities or their inadequacy. Metropolitan hospitals are much sought after but, since there are far too many claims on a single job, there is a traffic jam.

Engineers do not want to come back. No wonder really; there are so many of them roaming around Delhi streets with jacks and spanners. And the percentage of returning social scientists and business administrators is even smaller. Only 34 per cent of the former and 32 per cent (on the Register) of the latter category actually returned. Exodus is towards America—the land of easy opportunity and fast buck.

Among the scientists proceeding on foreign study tours happen to be a large number of Indians, although their exact number is not known.

how's the first auto- nomous college like?

by m. v. rajagopal

In the last few days newspapers have carried in their commercial columns a short advertisement about a new college at Kurnool. I wonder if this advertisement, tucked away in a corner and appearing alongside tender notices and vacant situations, has really attracted the attention of the prospective student of such a college. Even more fundamentally, it is doubtful if it has conveyed the enormous importance of a new project in Higher Education which this college symbolises—Author

The Silver Jubilee Government College of Arts, Science and Commerce for talented students to be established by the Government at Kurnool immediately is, to put it modestly, a major landmark in the history of Higher Education in India. It is perhaps the first of its kind in the whole country to be established either by Government or a Private agency. An institution where talented young men are not only taught free but paid to learn well. The institution will not only be physically well-equipped, but it will provide for a liberal Teacher pupil ratio and challenging methods of higher instruction so as to identify and foster talented young men who can hold their own both nationally and internationally.

Ever since the Kothari Commission Report appeared in 1966 there have been nation-wide discussions about the establishment of Autonomous Colleges. This was one of the major recommendations of that body. The position, however, is that today, nearly six years after the Kothari Commission Report was published, no Autonomous College conforming to the character and complexion envisaged by the Kothari Commission has really come up. There are some claims to have established such colleges under the Universities of Rajasthan, Agra and Punjab. It is reported that these Universities have even amended their statutes to help the recognition of certain colleges as Autonomous Institutions. While no doubt such efforts will have to be appreciated and given their due recognition, nevertheless, the basic fact remains that full-fledged Autonomous Colleges of the kind contemplated by the Kothari Commission have not yet come up in the country. Considering the latest position in Higher Education, one could also doubt how many of the existing institutions will really measure up to the requirements of an autonomous college, as laid down by the Kothari Commission. Even the proposed College at Kurnool does not, in an important sense, conform to the pattern prescribed by the Kothari Commission, though the Government of Andhra Pradesh intends to provide in this college all those basic conditions which a really Autonomous College, seeking academic excellence, should have. For one thing, the College at Kurnool is going to be a new institution and not an existing one turned into an Autonomous Body. Those who are familiar with the academic and administrative conditions prevailing in the preponderant majority of our Degree Colleges in the State and probably elsewhere in the country, including those which have earned the reputation of producing better

examination results, will readily concede that most of them will not qualify for the status of Autonomous Colleges. If only we have some clear ideas of this concept. If the Kothari Commission's idea is that age is a necessary pre condition for autonomy, it is more likely that new colleges equipped from the very beginning with the physical and human resources necessary to build up an institution of excellence can acquire the autonomous status over the years, rather than many of the existing institutions which have been established under local pressures and starved of funds and suitable personnel. It is this thinking that prompted the State Government to establish the college at Kurnool though their commitment to strengthen the existing colleges is no less strong. The choice of Kurnool itself was an accident depending on some other factors of advantage there. Basically, it is meant to be a college for talented students and able teachers. In order to ensure the administrative and academic freedoms that any community of scholars should have to achieve anything intellectually and academically worthwhile, the Government proposes to release the college from its own administrative control as soon as possible and hand it over to an autonomous body on which there will be due representation for University men, educational administrators and all those other interests which have to be involved in building up an institution of this conception. So far as academic freedom is concerned the Government hopes that the University to which it is affiliated will recognise the unique nature of the institution without being unduly deterred by the institution's recent nativity and confer on it autonomous status after satisfying itself with regard to the actual performance of the college over the next few years. The academic freedoms mentioned here will no doubt

Begin with such initial steps as freedom in regard to student admissions and staff recruitment but gradually involve more fundamental processes like framing of curricular offerings, their objectives and content, methods of instruction, scheme of examinations and other allied academic tasks. The ultimate picture will, hopefully, be that, except in regard to the right of conferring a Degree, which will always remain with the University, the college will, subject to high levels of performance, become a full fledged autonomous institution in the fulness of time.

The President of India is being invited to inaugurate this college sometime during the first week of October, 1972, in consonance with the high ideals that the Government has placed before this college. By then, an open entrance examination for admission to the college will be conducted and 150 students based on merit selected for admission. In accordance with the Government's commitment to the concept of social justice and not merit alone, 45% of the seats will be reserved for the Scheduled Castes, Scheduled Tribes and Backward Classes, though even they must face a competition to come into the college. Whoever comes into this college eventually will not only get tuition free but will receive a stipend of Rs. 100/- per month for all the 12 months of the year and he shall reside on the campus of the college. Instruction will be provided in both English and Telugu medium. I have hope that talented students of the State will take advantage of this unique institution and come forward to compete for places in this college.

TOPIC

Gujarat Secondary Education Bill

The other day the Gujarat Vidhan Sabha decided to refer the Gujarat Secondary Education Bill currently under its consideration, to a Select Committee.

The Bill, which seeks to safeguard the interests of teachers, was piloted by the Education Minister, Mr. Gordhandas Chokhawala. Its aim is to regulate secondary education in the state and is most likely to replace the present grant-in-code that gives no statutory protection to teachers in service. Further, it envisages possible governmental take-over in case the management fails. It will also set up a secondary school board to regulate, inter alia, the service conditions, and the recruitment of teaching and non-teaching staff. Provision exists also for establishment of tribunals which could be moved by aggrieved employees.

The Education Minister has mentioned already that the nationalisation of secondary education would not serve the interests of education, and that the Government should least interfere in the educational field. It should merely ensure the proper running of educational institutions and a fair deal for teachers.

Two thousand get No from Punjabi University

Some 2,000 graduates—800 of them B.Sc's—got "No" when they applied for admission to the Punjabi University.

This year, there was an unprecedented demand for M. Sc. admissions, Biology and Botany in particular. There were 720 applicants for a total of 60 seats. Normally only first class graduates could get admission. And selection was decided entirely on merit calculated arithmetically on the basis of a formula which completely ruled out any subjective considerations.

Free Education for children of service men killed in War

The Minister of Defence Production, Mr. V.C. Shukla, informed the Rajya Sabha on August 9 that the Central Government had issued orders that all children of servicemen killed in the recent hostilities would be entitled to free education in institutions administered or aided by the Central Department of Education.

University News

SUBSCRIPTION

RATES

One year	...	...	Rs. 9
Three years	...	...	Rs. 25
Five years	...	...	Rs. 40
Single copy	...	...	Paise 80

New Textbooks in English from the USSR available in India

(Mir Publishers, Moscow)

TEXTBOOKS

PHYSICAL GEOLOGY, G. Goshkov and A. Yakushova, pp. 583, Rs. 8.35 (Mir Publishers, Moscow)

The book sums up and presents in popular form materials collected by the authors in the course of many years of research on the territory of the USSR and in other countries of the world.

It gives the principal information on the figure, dimensions and the age of the earth, considers external dynamic processes (the geological work of wind, of surface and underground waters, glaciers, seas, lakes and weathering processes) and internal dynamic processes (tectonic dislocations, oscillatory movements, earthquakes, magnetism, metamorphism, etc.).

This is a textbook for students of special geological schools and may be of use to geologists and geophysicists.

This textbook is divided into three parts consisting of twenty chapters.

SEISMIC PROSPECTING, I. Gurchik, pp. 463, Rs. 5.75 (Mir Publishers, Moscow).

The most advanced and modern methods of searching for concealed deposits of useful minerals are those used in geophysical prospecting. The structure of the earth's crust, and the presence of ores, oil, coal, and other minerals can be inferred from studies of the various physical phenomena taking place within the earth and on its surface. Geophysical methods of prospecting facilitate the study of natural resources and hasten the discovery of deposits of industrially valuable raw materials and fuels. The role of geophysical methods in geological prospecting is continually increasing.

Seismic prospecting is one of these methods and is widely employed in various branches of mining and the extraction industries and particularly in exploring and prospecting for oil and gas fields. It is also used to study deposits of other economic minerals and to resolve various problems in engineering geology.

The book presents the physical and geological principles of seismic prospecting, the methods and techniques of field operations, and the treatment of the data obtained.

This English edition has been translated from the second, revised Russian edition. Since the development of seismic prospecting is so rapid, special attention has been paid to giving short descriptions of such recent innovations and technical means as magnetic intermediate recording, controlled directional reception, automatic construction of sections, and so forth. The sections dealing with controlled directional reception have been written by L.A. Ryabinkin.

The author has confined himself to giving only limited information on the apparatus used in seismic prospecting, since detailed description of the theory and design of seismic instruments is properly the field books and manuals dealing specifically with them.

OPEN HEARTH STEELMAKING PRACTICE, M. Sosnenko, pp. 286, Rs. 3.75 (Mir Publishers, Moscow).

A study aid for training steel maker's mates.

Contents. Safety Regulations in Open-Hearth Steelmaking Shops. Materials for the Construction and Repair of Furnaces. Furnace Design. Furnace Repairs. Charging Materials and Fuels for Open-Hearth Steel making. Furnace Operation. Basic Theory of Open-Hearth Processes. Steelmaking Technology. Ingot Casting. Automatic Control of Furnace Operation. Fundamentals of Economics of Open-Hearth Steelmaking.

MEDICINE

CHILDHOOD OSTEOLOGY, M. Volkov, pp. 467, Rs. 15.00 (Mir Publishers, Moscow)

This monograph is the first major work in any language on the most important subject of the clinical picture, modern complex diagnosis, and treatment of a large group of systemic dysplastic and tumorous lesions of the skeleton in children. The material presented is drawn from analysis of 1,560 cases from the author's personal experience in the clinic for children's bone diseases of the Moscow Central Institute of Traumatology and Orthopaedic Surgery. A general classification of all skeletal lesions and a classification of bone new growth and dysplastic processes in children are given.

Bone lesions are discussed according to nosological forms, and there is a special section in which they are surveyed according to localization (affection of the skull, spine, shoulder girdle and thorax, hand and foot) which makes the book more convenient for the general practitioner.

Inflammatory and traumatic affections, and certain rare skeletal lesions are discussed only from the standpoint of the differential diagnosis of skeletal dysplasias and neoplasms; in particular a typical, tumour-simulating traumatic processes in bones and isolated bone abscesses with a sloughful course due to antibiotic therapy, and such rare skeletal diseases as hyperostosis, spontaneous resorption of bone hypophosphatasia, progressive ossification of muscles, and bone forms of blastomatous reticulosis. The section on treatment is written in the light of contemporary data on combined drug, radiation and surgical therapy.

The author's wide experience of bone homotransplantation in children with dysplastic processes of the skeleton is generalized for the first time. The book is intended for paediatricians, orthopaedic surgeons, specialists in child surgery, radiographers and oncologists.

POPULAR SCIENCE

PHYSICS FOR ENTERTAINMENT, Ya. Perelman, Part I, pp. 264, Rs. 3.55, Part II, pp. 330 Rs. 3.55 (Mir Publishers, Moscow).

Perelman's Physics for Entertainment—this is a translation from the eighteenth Russian edition—owes its wide popularity to the rare talent of its author who was able to single out and present in an entertaining form ordinary facts and phenomena of profound meaning from the angle of physics. This is the fifth edition after the author's death. Little has been done to change the original text or illustrations, indeed it has been felt better to leave practically everything as it was, as being substantially correct; while we have merely endeavoured to bring it up to date.

In all three posthumous editions (the 14th and 15th of 1947 and 1949 as edited by Prof. A. B. Mlodzeevsky and the 18th edition of 1959-60 as prepared by Dr. V. A. Ugarov) only a few by now obsolescent data have been brought up to date, some ill-advised projects omitted, some amount of notes added.

Perelman had a very definite purpose in mind when he wrote this book. Describing established conceptions and long known laws, he introduces us to the fundamentals of modern physics and tries to get us "think in physical categories". No wonder there is nothing in the book about the latest achievements in electronics, nuclear physics and the like. Though he wrote the book almost fifty years ago, he supplemented it up to its thirteenth edition in 1976. In 1942 he died in the Leningrad blockade and subsequent editions were published posthumously.

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The prescribed form for applications will be sent free of cost by the Dy. Registrar (Academic), Selection Committee Section, Banaras Hindu University, Varanasi-5 along with the leaflet of information on receipt of a self-addressed envelope (9" x 4"). Applications for each post be sent separately with application fee of Rs. 7.50 remitted by Bank Draft/Crossed I.P.O. in favour of the Registrar (Academic), Banaras Hindu University. M.O. or Cheque will not be accepted. Candidates called for interview will be paid Second Class Railway fare bothways by the shortest route. No other expenses will be paid. The last date for the receipt of applications is 18th September, 1972.

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2. Reader in Geophysics
3. Reader in Biochemistry
4. Reader in French

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(for post No. 1 & 2)

1. A first or second class Master's Degree in the subject or an equivalent qualification.

2. A Doctorate Degree and/or published work of a high merit in reputed journals.

3. About 5 years experience of Post-Doctoral research and/or teaching at a University or College.

4. Experience of guiding research. (for post No. 3)

1. A first or second class Master's Degree in Chemistry or Biochemistry or an equivalent qualification in the subject.

2. Either a Doctorate Degree in Biochemistry or published work of a high merit.

3. About 5 years experience of Post-Doctoral research and/or of teaching at a University or College.

4. Experience of guiding research. (for post No. 4)

1. A first or second class Master's Degree in the subject or an equivalent qualification.

2. A Doctorate Degree and/or published work of a high merit in reputed journals.

3. About 5 years experience of Post-Doctoral research and/or of teaching at a University or College.

Qualifications Desirable :

(for post No. 3)

1. Specialisation in Biochemical Genetics, Microbial Biochemistry or Physiological Chemistry.

(for post No. 4)

1. Experience of guiding research.

Lecturers

Grade : Rs. 400-40-800-50-950.

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6. Lecturer in Chemistry (Specialisation in Physical Chemistry)

7. Lecturer in French

8. Lecturer in German (Two posts)

9. Lecturer in History

10. Lecturer in Library Science (Three posts)

11. Lecturer in Business Management (Two posts)

12. Lecturer in Biochemistry

Qualifications Essential :

(for post No. 5 to 10)

1. A first or second class Master's Degree in the subject and/or an equivalent qualification.

(for post No. 11)

1. A first or high second class Master's Degree in Management, Commerce or Economics.

2. Specialisation in any one of the following areas : (a) Marketing Management (b) General Management or Managerial Economics.

(for post No. 12)

1. A first or second class Master's Degree in Biochemistry or in Chemistry with Ph. D. in Biochemistry.

Qualifications Desirable

(for post No. 5 to 12)

1. Aptitude for research as indicated by published work (for all posts except No. 10 & 11).

2. Doctorate Degree in the subject and/or some teaching experience (for all posts except No. 11)

3. (a) Specialisation in Medieval Indian History (b) Preference will be given to those who can also teach History of Modern Political Thoughts (for post No. 9 only).

4. Working knowledge of one or more foreign languages (for post No. 10 only).

5. (a) A Doctorate Degree in the subject and/or research experience (b) Teaching experience or experience as a business executive (for post No. 11 only).

6. Specialisation in Biochemical Genetics, Microbial Biochemistry or Physiological.

FACULTY OF AGRICULTURE

13. Professor of Plant Physiology

14. Reader in Plant Pathology

15. Lecturer in Agricultural Statistics

Grade :

Rs. 1100-50-1300-60-1600.

Grade

Rs. 700-50-1250

Grade :

Rs. 400-40-800-50-950.

Qualifications Essential

(for post No. 13)

1. A first or second class M. Sc. Degree in Agriculture/Agricultural Botany/Botany with specialisation in Plant Physiology or an equivalent qualification in the subject.

2. A research degree of a Doctorate standard and/or published work of a high standard in reputed journals.

3. About 10 years experience of Post-doctoral research and/or of teaching at a University or College.

4. Experience of guiding research of a high standard.

(for post No. 14)

1. A first or second class M. Sc. Degree in Agriculture or Agricultural Botany or Botany with specialisation in Mycology and Plant Pathology or an equivalent qualification.

2. A Doctorate Degree and/or published work of a high merit in reputed journals.

3. About 5 years experience of Post-Doctoral research and/or of teaching at a University or College.

4. Experience of guiding research.

(for post No. 15)

1. A first or second class M. Sc. Degree in Statistics/Agricultural Statistics or an equivalent qualification in the subject.

Qualifications Desirable

(for post No. 13)

1. Experience of organising guiding research projects in the field of Plant Physiology.

(for post No. 14)

1. Specialisation in Plant Bacteriology or Plant Virology or Fungicidal control of Plant diseases.

(for post No. 15)

1. Aptitude for research as indicated by published work.

2. Doctorate Degree in the subject and/or some experience.

INSTITUTE OF MEDICAL SCIENCES

Professors

Grade : Rs. 1100-50-1300-60-1600 plus NPA @ Rs. 500/- p.m. admissible to Medical Graduates.

16. Professor of Basic Principles

17. Professor of Biophysics

18. Professor of Forensic Medicine

Qualifications Essential

(for post No. 16)

1. A.M.S./A.B.M.S. or an equivalent qualification in Indian Medicine recognised by the University.

2. Research Degree of Doctorate standard or research publication of high standard in Indian Medicine with particular reference to Basic Principles.

3. About 10 years experience of teaching in Indian Medicine in any recognised Institution.

4. Experience of guiding research.

(for post No. 17)

1. M.B.B.S. Degree or an equivalent qualification recognised by the Medical Council of India with Post-graduate or equivalent qualification in the subject viz. M.D. Ph. D. OR A first or second class M.Sc. Degree in Biophysics or Physics with Special paper in Biophysics and Ph. D. Degree in Biophysics and/or published work of high merit.

2. About 5 years experience of teaching and research in a Medical College or other research Institute in the capacity of a Reader or equivalent post after requisite Post-graduate qualification.

3. Experience of guiding research.

(for post No. 18)

1. M.B.B.S. Degree or equivalent qualification recognised by the Medical Council of India.

2. M.D. (Forensic Medicine)/M.D. (Pathology). Speciality Board of Pathology (U.S.A.). M.R.C.P. (with Forensic Medicine as a Special subject) or an equivalent qualification.

3. About 5 years teaching experience in the subject concerned in a Medical College or Medical Teaching Institution in the capacity of a Reader or equivalent post after requisite post-graduate qualification.

4. Experience of doing medico-legal work for about 5 years.

5. Experience of guiding research.

Qualifications Desirable

(for Post No. 16 to 18)

1. Original contribution and research publications in the subject.

2. Membership of Professional bodies/Learned Societies.

3. Qualification in modern Medicine or Science (for post No. 16 only).

Readers

Grade : Rs. 700-50-1250 plus NPA @ Rs. 400/- p.m. admissible to Medical Graduates.

19. Reader in Pharmacology

20. Reader in Medicine (Cardiology)

21. Reader in Preventive and Social Medicine (Temp. Leave Vacancy)

22. Reader in Physiology

23. Reader in Anatomy (Neuro-Anatomy)

24. Reader in Microbiology

Qualifications Essential

(for post No. 19 to 23)

1. M.B.B.S. Degree or an equivalent qualification recognised by the Medical Council of India (for all posts).

(for post No. 24)

1. M.B.B.S. Degree or equivalent qualification recognised by the Medical Council of India with M.D./M.Sc./D. Phil./D. Sc. in Microbiology and about 3 years teaching experience as Lecturer OR Non medical graduates with Ph. D. or D. Sc. in Bacteriology, Mycology, Parasitology, Virology (after requisite Post-graduate qualification) and about 5 years teaching or research experience in a recognised Institution.

Other Essential Qualifications

(for post No. 19 only)

1. Postgraduate or equivalent qualification in the subject i.e., M.D. Ph. D., D.Sc.

2. About three years teaching experience in the subject in a Medical College or Medical Teaching Institution in the capacity of a Lecturer or equivalent post.

(for post No. 20 only)

1. M.D., M.R.C.P., F.R.C.P. Diplomate Speciality Board of Internal Medicine (U.S.A.) or an equivalent qualification in the subject

2. About three years teaching experience in the Department of Medicine of a Medical College or Medical Teaching Institution in the capacity of a Lecturer or equivalent post

3. Teaching and Research experience in Cardiology.

(for post No. 21 only)

1. Postgraduate or equivalent qualification in the subject—M.D. (P.S.M.), M.R.C.P. with Social Medicine, D.P.H. or D. Sc. (Public Health)

2. About three years teaching experience in the subject in a Medical College or Medical Teaching Institution in the capacity of a Lecturer or equivalent post.

(for post No. 22 only)

1. Postgraduate Research Degree in Physiology i.e., M.D., M.Sc., Ph. D., D.Sc. or M.R.C.P. with Physiology as a special subject or equivalent qualification.

2. About three years Teaching experience as Lecturer in Physiology in a Medical College after Post graduate qualification.

(for post No. 23 only)

1. Postgraduate or equivalent qualification in the subject i.e., M.S., Ph.D.

2. About three years teaching experience in the subject in a Medical College or Medical Teaching Institution in the capacity of a Lecturer or equivalent post.

Qualifications Desirable

(for post No. 19)

1. Research experience and publication in the subject.

(for post No. 20)

1. Research experience and publication in the speciality.

(for post No. 21)

1. Experience of field work in public Health or Teaching Health Centre.

2. Diploma in any Clinical or Public Health Discipline.

3. Research publications in the subject.

(for post No. 22)

1. Research experience and publication in the field of Neurophysiology and Endocrinology.

(for post No. 23)

1. Research experience and publication in Neuro-Anatomy.

(for post No. 24)

1. Research experience and publication in Parasitology, Immunology, Virology or Mycology.

Note : If candidates with necessary teaching experience are not available for post No. 24—Reader in Microbiology the candidate will be considered for the post of a Lecturer.

Lecturers

Grade : Rs. 400-40-800 50-950 plus NPA @ Rs. 300/- p.m. admissible to Medical Graduates.

25. Lecturer in General Surgery

26. Lecturer in Surgery (Urology)

27. Lecturer in Surgery (Paediatric Surgery)

28. Lecturer in Anaesthesia

29. Lecturer in Obstetrics & Gynaecology (two posts)

30. Lecturer in Pathology

31. Lecturer in Biophysics

32. Lecturer in Shalya Shalakya

33. Lecturer in Physiology

Qualifications Essential

(for post No. 25 to 30)

1. M.B.B.S. Degree or an equivalent qualification recognised by the Medical Council of India (for all posts).

(for post No. 31)

1. (a) First or second class M.Sc. in Biophysics or Physics with Biophysics as a special paper.

(b) Ph. D. in Biophysics or research contribution of Doctorate standard in Biophysics OR

(a) M.B.B.S. Degree or an equivalent qualification recognised by the Medical Council of India.

(b) Postgraduate qualification viz., M.D., Ph. D. or an equivalent qualification in Biophysics

2. About two years teaching experience and/or research experience in Biophysics in a Medical or Research Institute.

(for post No. 32)

1. A.M.S./A.B.M.S. or equivalent qualification recognised by the University.

2. D. Ay. M., Postgraduate qualification with Shalya Shalakya as a special subject.

3. About two years teaching and/or research experience in the subject.

(for post No. 33)

1. M.B.B.S./M.Sc. Degree in the subject or an equivalent qualification recognised by the Medical Council of India/University.

2. Post-graduate degree in Physiology viz. M.D., Ph. D.

3. About two years teaching experience as Demonstrator in Physiology in a Medical College or any other Institution.

Other Essential Qualifications

(for post No. 25)

1. M.S. or F.R.C.S. or an equivalent

qualification in General Surgery recognised by the Medical Council of India.

2. About two years teaching experience as Registrar or equivalent post in General Surgery in a Medical College or Medical Teaching Institution.
(for post No. 26)

1. M.S. or F.R.C.S. or an equivalent qualification in Surgery recognised by the Medical Council of India with about 2 years special Training in Urology or M.S./M.Ch. in Urology.

2. About two years teaching experience as Registrar or equivalent post in respective or allied subject in a Medical College or Medical Teaching Institution
(for post No. 27)

1. M.S. or F.R.C.S. or an equivalent qualification in Surgery recognised by the Medical Council of India with about two years special Training in Paediatrics Surgery or M.S./M.Ch. in Paediatrics Surgery.

2. About two years Teaching experience as Registrar or equivalent post in the respective or allied subject in a Medical Institute.

(for post No. 28)

1. M.D. (Anaesthesia) or equivalent qualification i.e. M.S. (Anaesthesia), F.F.A.R.C.S. or Diploma of the American Specialty Board.

2. About two years teaching experience as Registrar or equivalent post in the subject.

(for post No. 29)

1. M.D. or M.S. in Obstetrics & Gynaecology. M.R.C.O.G., Speciality Board of Obst. & Gynaec. (U.S.A.), F.R.C.S./M.R.C.P. (with Obst. and Gynaec. as a special subject) or an equivalent qualification.

2. About two years teaching experience in Obstetrics and Gynaecology as Registrar or equivalent post in a Medical Teaching Institution.

(for post No. 30)

1. M.D. (Pathology) or equivalent Post-graduate qualification in Pathology recognised by Medical Council of India.

2. About two years experience of working as Demonstrator or an equivalent post in Pathology in a recognised Medical Institute or Hospital.

Qualifications Desirable

(for post No. 25)

1. Experience of working in a good and preferably recognised General Surgery Unit for about 2 years.

2. Research experience and publication in the speciality.

(for post No. 26)

1. Research experience and publication in Urology.

(for post No. 27)

1. Research experience and publication in Paediatric Surgery.

(for post No. 28 & 29)

1. Research work and publications in the journals.

(for post No. 30)

1. Experience in Histopathology work.

2. Research publications in the subject.

(for post No. 31)

1. Research publications in the subject.

(for post No. 32)

1. Ph. D. with Research publications

in the subject.

(for post No. 33)

1. Research publications in the subject.

Note: Candidates with Diploma in Anaesthesiology may also be appointed if candidates with Post-graduate Degree are not available (for post No. 28—Lecturer in Anaesthesia).

INSTITUTE OF TECHNOLOGY

Professors

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36. Professor of Applied Chemistry (Specialisation in—Inorganic Chemistry; Organic Chemistry; Nuclear Chemistry; Petroleum Chemistry; High Polymer Chemistry)

Qualification Essential

(for post No. 34 & 35)

1. A first or second class Master's Degree in the subject or an equivalent qualification.

2. A research Degree of a Doctorate standard and/or published work of a high standard in reputed journals.

3. About 10 years experience in responsible position in Teaching/Research Industry.

4. Experience of having guided research work of a high standard or evidence of original work in Design/Development.

5. Specialisation in the field/fields as noted against the post.

(for post No. 36)

1. A first or second class Master's Degree in the subject or an equivalent qualification.

2. A Research Degree of a Doctorate standard and/or published work of a high standard in reputed journals.

3. About 10 years experience of Post doctoral research and/or of teaching at a University or College, preferably in an Engineering Technical Institute.

4. Ability to guide research work of a high standard.

5. Specialisation in one or more areas as noted against the post.

Qualifications Desirable

(for post No. 34 & 35)

1. Research publications in standard journals or books.

2. Corporate Memberships/Fellowships of Professional organisations/Learned Societies.

(for post No. 36)

1. Corporate Membership/Fellowships of Professional organisations/Learned Societies.

2. Knowledge of foreign languages.

Readers

Grade: Rs. 700-50-1250

37. Reader in Mechanical Engineering (Industrial Engineering & Management)

38. Reader in Mechanical Engineering (Production Engineering)

39. Reader in Mechanical Engineering

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40. Reader in Mechanical Engineering (Adv. Thermodynamics and Heat Transfer)

41. Reader in Civil Engineering (Structural Engineering)

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44. Reader in Ceramic Engineering (Refractories)

45. Reader in Electronics Engineering

46. Reader in Instrumentation and Process Control

47. Reader in Organic Technology

48. Reader in Ore Dressing

49. Reader in Process Metallurgy (Foundry Metallurgy)

50. Reader in Process Metallurgy (Extractive Metallurgy)

51. Reader in Engineering Physics

Qualifications Essential

(for post No. 37 to 43)

1. A first or second class Master's Degree in the subject or an equivalent qualification.

2. A Doctorate Degree and/or published work of a high merit in reputed journals.

3. About 5 years experience in teaching/Research Industry.

4. Specialisation in respective fields as mentioned against each post.

(for post No. 44)

1. A first or second class Master's Degree in Ceramic Engineering/Silicate Technology/Chemical Engineering/Chemical Technology.

2. A Doctorate Degree in Ceramic Engineering/Silicate Technology and/or published work of a high merit in reputed journals.

3. About 5 years experience in teaching/Research Industry.

4. Specialisation in Refractories.

(for post No. 45)

1. A first or second class Bachelor's Degree in Electronics Engineering or Tele-Communication Engineering followed by first or second class Master's Degree in Electronics Engineering or Tele-Communication Engineering.

2. A Doctorate Degree and/or published work of a high merit in reputed journals.

3. About 5 years experience in teaching/Research Industry.

(for post No. 46)

1. A first or second class Master's Degree in Instrumentation and Process Control or Master's Degree in Chemical Engineering with Courses in Process Dynamics, Optimization Techniques and Computer Programming.

2. A Doctorate Degree in the subject and/or published work of a high merit in reputed journals.

3. About 5 years experience in Teaching/Research Industry

(for post No. 47)

1. A first or second class Master's Degree in Chemistry/Chemical Technology/Chemical Engineering or an equivalent qualification.

2. A Doctorate Degree in the subject and/or published work of a high merit in reputed journals.

3. About 5 years experience in Teaching/Research/Industry.

(for post No. 48)

1. A first or second class B.Sc. Degree in Mining/Metallurgy/Chemical Engineering or in Mineral Dressing of a recognised Institution.

2. Postgraduate Degree in Ore Dressing or Mineral Beneficiation.

3. A Doctorate Degree and/or published work of a high merit in reputed journals.

4. About 5 years experience in Teaching/Research Industry.

(for post No. 49)

1. A first or second class Degree in Metallurgical Engineering or equivalent qualification followed by Post-graduate Degree or Diploma in Process Metallurgy with specialisation in Foundry Metallurgy.

2. A Doctorate Degree and/or published work of a high merit in reputed journals.

3. About 5 years experience in Teaching/Research Industry OR experience in training graduate apprentices in a Foundry Metallurgy Works.

(for post No. 50)

1. A first or second class Degree in Metallurgical Engineering or equivalent qualification followed by Postgraduate Degree or Diploma in Process Metallurgy with Specialisation in Extractive Metallurgy.

2. A Doctorate Degree and/or published work of a high merit in reputed journals.

3. About 5 years experience in Teaching/Research Industry OR experience in Training graduate apprentices in an Extractive Metallurgy Work.

(for post No. 51)

1. A first or second class Master's Degree in the subject or an equivalent qualification.

2. A Doctorate Degree and/or published work of a high merit in reputed journals.

3. About 5 years experience in Teaching/Research in a University or College preferably in an Engineering/Technology Institution.

4. Experience of guiding research.

Qualifications Desirable

(for post No. 37 to 47)

1. Research publications in standard journals.

2. Membership of Professional bodies/Learned Societies.

3. Evidence of original work in Design/Development.

4. (i) Experience in Developing software for computers (for post No. 42 only).

(ii) Specialisation in Chemical Reaction Engineering/Thermodynamics/Fuels/Petroleum Refining Engineering/Process Dynamics/Heat Transfer (for post No. 43 only).

(iii) Specialisation in any one or more of the following areas: Solid State Devices/Electronic Computers/Electronics Instrumentation/Network Synthesis/Line Communication Engineering/Microwave Engineering (for post No. 45 only).

(iv) Knowledge of (a) Process Control pertaining to Chemical Industry (b) Advanced Engineering Mathematics, System Engg and Computer calculations and Practical knowledge of Instruments, Automatic Controllers, Recorders and Computers (for post No. 46 only).

(v) Specialisation in some branch of Organic Technology (Oils & Fats, High Polymers, Dyes, Fermentation Technology (for post No. 47 only)

(for post No. 48)

1. Membership of Professional bodies/Learned Societies.

(for post No. 49)

1. Research publications in the field of Foundry Metallurgy.

2. Membership of Professional bodies/Learned Societies.

(for post No. 50)

1. Research publications in the field of Extractive Metallurgy.

2. Membership of Professional bodies/Learned Societies.

(for post No. 51)

1. Research publications.

2. Membership of Professional bodies/Learned Societies.

Lecturers

Grade : Rs. 400-40-800-50-950

52. Lecturer in Electrical Engineering (Specialisation in Computer Technology)

53. Lecturer in Civil Engineering (Specialisation in Structural Engg.)

54. Lecturer in Mechanical Engineering (Industrial Engg.).

55. Lecturer in Mechanical Engineering

56. Lecturer in Chemical Engineering

57. Lecturer in Metallurgy (Two posts)

58. Lecturer in Mining Engineering

59. Lecturer in Tele-Communication Engineering

60. Lecturer in Drawing and design

61. Lecturer in Chemistry (Three post)

62. Lecturer in Geology

63. Lecturer in Physical Education

64. Research Fellow and Part-Time Lecturer—Salary Rs. 300/- p.m. (fixed)

Qualifications Essential

(for post No. 52 to 57)

1. A first or second class Master's Degree in the subject or an equivalent qualification.

2. Specialisation in the field as mentioned against the post.

(for post No. 58)

1. A first or second class Degree in Mining Engineering or Diploma from Indian School of Mines, Dhanbad.

2. M.Sc. Degree in Mining Engg. or Second Class Mine Manager's Certificate of competency.

(for post No. 59)

1. A first or second class Bachelor's Degree in Electronics Engineering or Telecommunication Engg. followed by first or second class Master's Degree in Electronics Engineering.

(for post No. 60)

1. A first or second class Master's Degree in Chemical Engineering or Mechanical Engineering.

2. Specialisation in Plant and equipment Design.

(for post No. 61)

1. A first or second class Master's Degree in Chemistry/Applied Chemistry or on equivalent qualification.

(for post No. 62)

1. A first or second class Master's Degree in the subject or an equivalent qualification.

1. A Bachelor's Degree in Arts Science of a recognised University.

2. Degree/Diploma in Physical Education of a recognised University.

3. Proficiency in one of the major games or Sports.

4. At least 3 years experience.

5. Ability to organise sports events.

(for post No. 64)

1. A first or second class M Sc. Degree in Zoology or Botany/Microbiology.

Qualifications Desirable

(for post No. 52 to 60)

1. Experience of Teaching/Research/Industry (for all posts)

(i) Experience in a digital Computer installation (for post No. 52 only)

(ii) Specialisation in Thermodynamics/Heat Transfer/Unit Operations/Biochemical Engineering (for post No. 56 only)

(iii) Publications/Project Reports in Physical/Process Metallurgy (for post No. 57 only).

(iv) Specialisation in any one or more of the following: Microwave Engineering/Electronics Instrumentation/Electronic Computers/Solid State Devices/Line

Com. Engg./Network synthesis (for post No. 59 only).

(for post No. 61)

1. Aptitude for research as indicated by published work.

2. Doctorate Degree in the subject and/or some experience in Teaching/Research/Industry.

3. Knowledge of Unit Processes/Fuels/Instrumental Analysis Technical Analysis/experience in some branch of Chemical Technology.

(for post No. 62)

1. Aptitude for research as indicated by published work.

2. Doctorate Degree in the subject and/or some teaching experience preferably in an Engineering Technological Institute.

(for post No. 63)

1. Training and experience in any one of the games or Sports.

(for post No. 64)

1. Specialisation in Microbiology.

contd. from page 13

The occasion for the consideration of this issue was in relation to the equivalence that has to be given to someone doing pre-university from Kerala and getting admission elsewhere. If PUC was to be equated with Intermediate, a student migrating to another university from Kerala could do his B.A. in two years whereas had he stayed on in his own State he would have taken three years. This was regarded as some kind of an anomaly by most people and the matter has been under discussion of the UPSC, the Ministry of Education and the Inter-University Board for some time.

At its meeting held on 5th and 6th September 1972, the Standing

Committee of the Board recommended that the pattern recommended by the Radhakrishnan Commission and the Kothari Commission should be generally followed. In regard to this specific question of those who do their P.U.C. from Kerala, the system followed should be somewhat like this. After the PUC a student must spend three years so as to complete his bachelor's degree. If he stays on in Kerala he of course spends three years. If however he gets to another university he does not get admission to the 11nd year of the three year degree course but the 1st year of the three-years degree course or the second year of the two year Intermediate course if it is followed by a two-year degree course.

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UNIVERSITY OF JODHPUR

(Establishment Branch)

Dated : August 29, 1972.

Advertisement No. 5/72

Professor in sociology (one)

Scale of Pay : Rs. 1100-50-1300-60-1600.

Qualifications : (A) A first or high second class Master's Degree of an Indian University or equivalent qualification of a foreign University in the subject concerned (B) Either a research degree of Doctorate Standard or published work of a high standard (C) Teaching experience at a University of college of about 10 years with at-least five years of post graduate work and experience of guiding research.

Readers : (1) Electrical Engineering (2) Mechanical Engineering; Scale of Pay : Rs. 700-50-1250.

Qualifications (a) A first or high second class Bachelor's degree of an Indian University or equivalent qualification of a foreign University in the subject concerned. (b) Experience of teaching and or professional experience for six years.

Desirable : Postgraduate degree and/or research experience.

Specialisation : Electrical Engineering (1) Machines/Machine Design (2) Control System/Power System; Mechanical Engineering; Heat, Power, Engineering.

Lecturer in Geology (one) (Temporary); Lecturer in Home Science (one)

Scale of Pay : Rs. 400-40-800-50-950.

Qualifications : I. Essential : A first class Master's Degree in the subject or second class Master's degree with three years experience of teaching degree classes. II. For Geology : Specialisation in Engineering Geology or Mining Geology desirable.

Lecturer in Law : Scale of Pay : Rs. 400-40-800-50-950.

Qualifications : Essential : A first or Second Class Master's degree in Law or first or high second class degree in Law with three years teaching or three years practice at bar.

Medical Officer (One)

Scale of Pay : Rs. 375-25-650-30-850.

Qualifications : (1) M.B.B.S. of an Indian University or equivalent qualifications of a foreign University (2) At least three years experience as a Medical Practitioner. Persons having MS/MD degree will be preferred.

Research Assistant : Botany.

Scale of Pay : Rs. 300-250-350.

Qualifications : (1) Essential : A first or high second class Master's degree in the subject concerned with proved capacity aptitude for research work. Preference will be given to candidates who are engaged in research work.

Professional Assistant : (Library)

Scale of Pay : Rs. 250-20-450-25-625.

Qualifications : Graduate with Degree or Diploma in Library Science with 7 years experience as Librarian.

Mechanic : (Physics Department)

Scale of Pay : Rs. 200-15-350-20-450.

Qualifications : Essential : 1. T.I Certificate holder. Matriculate with 10 years experience in workshop relating to repair and maintenance of technical instruments.

Junior Technical Assistant : one

Scale of Pay : Rs. 160-8-200-10-240-15-360.

Qualification : Graduate with Degree or Diploma in Library Science.

Head Draftsman : (One) (Temporary)

Scale of Pay : Rs. 180-10-220-15-385-20-425.

Qualification : Diploma in Civil Engineering with two years experience.

Desirable : Postmatric Certificate in Draftsmanship with minimum 5 years Professional/Drawing office experience.

Senior Technician : (One) (Permanent)

Scale of Pay : Rs. 180-10-220-15-385-20-425.

Qualifications : Diploma in Mechanical Engineering.

Desirable : Operation of capstan and turret lathe.

Qualification as mentioned above may be relaxed in cases of candidates who are otherwise found suitable. Higher starting salary is possible to exceptionally qualified candidates. The post carries allowances as may be admissible under the University rules from time to time. Number of posts may be increased or decreased according to requirement at the time of appointment.

Persons who have already applied for the post of Readers each in Mechanical Engineering and Electrical Engineering in response to Advertisements No. 7/71, and for the post of Mechanics (Physics) in response to Advertisement No. 6/69 and for Lecturer in Law in response to Advt. No. 7/71, 8/71 & 4/72 need not apply again. They may, however, intimate on plain paper if they have obtained any additional qualification or contributed fresh research paper(s) or any change in the address.

Application forms can be obtained from the undersigned for which a crossed Indian Postal Order for Rs. 2/- endorsed in favour of the Registrar, Jodhpur University payable at Jodhpur be sent alongwith a self-addressed envelope of 24x11 cms. bearing postage stamps of 35 paise + 0.40 paise. The last date for receipt of application is September 23, 1972. The Vice-Chancellor may at his discretion condone delay in receipt application.

(S. Chakrabarti)
Registrar.

BANARAS HINDU UNIVERSITY

(Advertisement No. 22/1972-73)

APPLICATIONS are invited for the undermentioned posts in the Nuclear Physics Laboratory, Department of Physics, Faculty of Science of the University. The benefit of Provident Fund/Pension, Dearness Allowance are admissible according to the University Rules. The retirement age of the University employee is 60 years. The appointment will be made on two year's pro-

bation. Higher starting salary within the grade is admissible to specially qualified and experienced candidates.

The prescribed form for application will be sent free of cost by the Dy. Registrar (Administration), Selection Committee Section, Banaras Hindu University, Varanasi-5 along with the leaflet of information on receipt of a self addressed envelope (9"x4"). Application for each post be sent separately with application fee of Rs. 7.50 remitted by Bnkn Draft/Crossed I.P.O. in favour of the Registrar, Banaras Hindu University. M.O. or Cheque will not be accepted. Candidates called for interview will be paid Second Class Railway fare bothways by the shortest route. No other expenses will be paid. The last date for the receipt of applications is 11th September, 1972.

1) Maintenance Engineer—
Grade : Rs. 400-40.80-50-950

Qualifications Essential : (1) M.Sc. in Physics or a Degree in Electronics/Electrical Engineering. (2) Adequate experience of working in a Nuclear Physics Laboratory. (3) Thoroughly conversant with the Instruments of a modern Nuclear Physics Laboratory.

Nature of Duties : Maintenance and upkeep of the Van-de-Graff Accelerator and the Nuclear Research Laboratory.

2) Senior Technical Assistant
Grade : Rs. 325-15-475-20-575

Qualifications Essential : (1) B.Sc. Degree with Physics and/or a Technical Diploma. (2) Adequate experience of working in a Nuclear Physics Laboratory. (3) Thoroughly conversant with the Instruments of a modern Nuclear Physics Laboratory.

Nature of Duties :

Maintenance and upkeep of the Van-de-Graff Accelerator and the Nuclear Research Laboratory.

Note: Educational qualification relaxable for an otherwise exceptionally experienced candidate.

MARATHWADA UNIVERSITY

Ref. No. Estt/Advt/16.

Applications are invited for the following posts carrying University Grants Commission's scale of pay in the Post-graduate Departments of the University :-

- | | |
|---|---|
| 1. Reader in Econometrics/Mathematical Economics. | 1 |
| 2. Reader in Nuclear Physics | 1 |
| 3. Lecturer in Botany | 2 |
| 4. Lecturer in Political Science | 1 |
| 5. Lecturer in Mathematics and Statistics. | 2 |

Detailed information regarding the prescribed qualifications in the subject with specialization, pay-scales etc. will be supplied along with the prescribed application forms on receipt of a self-addressed envelope (23x10 cms) bearing postal stamps worth 70 paise to cover the postage. Applications in the prescribed forms should reach the Registrar, Marathwada University, Aurangabad, not later than September 23, 1972, along with the fee of Rs. 3/- in the form of Postal Order.

University Campus,
Aurangabad.

Ref. No. Estt/Advt/
August 22, 1972.

(V. K. Dhamankar)
Registrar.

Saurashtra University

Applications in the prescribed forms are invited for the posts of Readers in (1) Education (2) Commerce (3) Bio-Sciences (4) Mathematics: Pay scale Rs. 700-50-1250. Lecturers in (5) Mathematics (6) Bio-Sciences: Pay scale Rs. 400-40-800-50-950 (7) Tutor Demonstrator in Micro-Biology pay scale Rs. 250-15-400 (8) Personal Assistant to Pro Vice-Chancellor/Registrar: Pay scale Rs. 350-20-450-EB-25-650 (9) Office Superintendent (College Registrar) Pay Scale Rs. 325-15-400-EB-25-575.

All posts are permanent and carry benefits of contributory provident Fund as per University

rules. Posts at Sr. No. 1 to 6 are for University Departments and P. G. Centres, at Rajkot/Bhavnagar. Posts at Sr. No. 7 and 9 are for University conducted Colleges at Bhavnagar. Dearness allowance and house rent allowance will be paid as per University rules. Higher initial Salary in the scale may be considered in case of exceptionally qualified and experienced persons. Qualifications and experience relaxable in special cases. Candidates in employment must submit their application through their present employer. Candidates if not knowing Gujarati will be required to pick up Gujarati within reasonable period.

Age ordinarily not exceeding 55 years for posts at Sr. No. 1 to 7 and 45 years for others.

Application forms and details of qualifications required will be available from the Registrar, Saurashtra University, Rajkot on sending a self addressed envelope of the size 23 cms x 11 cms with postage stamp, worth 65 + 5 paise for post at Sr. No. 1 to 4, 45 + 5 paise for post at Sr. No. 5 to 7, 35 + 5 for others.

Applications (six copies in case of posts No. 1 to 4, Four copies in case of posts No. 5 to 7 and one copy in case of others) accompanied by Indian postal order (for Rs. 5/- in case of post No. 1 to 4 Rs. 2/50 in case of posts No. 5 to 7 and Rs. 1/- in case of others) crossed in favour of Registrar, Saurashtra University, Rajkot, should reach this office on or before 23-9-1972.

V. M. Desai
Registrar

Banaras Hindu University

Advt. No. Acu/IX (RFET)/72-71

Applications are invited for the award of Research Fellowships in the Department of Chemical Engineering in the fields of Mass Transfer/Heat Transfer/Fluid Dynamics/Thermodynamics/Biomedical Engineering/Chemical Reaction Engineering/Petroleum Technology/Transport phenomena. The scholars selected will be awarded the Fellowship of Rs.

400/- per month for a period of two years extendable by one year as per University rules. The applicant must have secured 60% marks at the M. Sc. Chemical Engineering or Chemical Technology or an equivalent examination.

The application forms can be had from the Public Relations Officer, Banaras Hindu University, Varanasi-5 on payment of Rs. 0.05 and should be sent, duly filled in, to the Registrar (Development), Banaras Hindu University, Varanasi-5 on or before the 15th Sept, 1972.

Those appearing in the Master's Degree Examination this year, may also apply and intimate their result as soon as it is declared. The candidates will be called for interview before selection. No. T.A. & D.A. will be paid.

Indira Kala Sangit Vishwa-vidyalaya, Khairagarh (M.P.)

(University of Music & Fine Arts)
Advertisement No. Dev. (72-1)

Applications invited for the following posts in the University Teaching Departments and the Library, viz. (1) One Reader in Kathak Dance (2) One Deputy Librarian (3) One Lecturer each in (i) Instrumental Music (Tabla), (ii) Instrumental Music (Violin), (iii) Kathak Dance, (iv) Bharat Natyam (v) Sanskrit (vi) English, (4) Two Lecturers in Painting, (5) One Sanskrit Pandit (6) One Laboratory Technician (Physics). Scales of pay—For posts of No. 1 & 2 :—Rs. 700-40-1100 and for the remaining posts (3 to 6) :—400-30-640-EB-40-800. Benefits of dearness allowance and Contributory Provident fund at university rates.

All the above posts are temporary but likely to continue. Details with regard to the Qualifications and other conditions for the above posts and the prescribed application forms may be obtained from the Registrar by sending a self addressed 40 paise stamped envelope of 23x10 cms. Last date for receipt of applications together with the crossed Indian postal order to be drawn in favour of the Registrar

for Rs. 7/- for posts No. 1 & 2 and for Rs. 5/- for the remaining posts, is 15th September, 1972.

Under exceptional circumstances, any of the prescribed qualifications may be relaxed at the discretion of the Vishwa-vidyalaya and it reserves the right to consider and appoint a person who may not have applied.

D. K. Ghosh
Registrar

SAMBALPUR UNIVERSITY SAMBALPUR Advertisement

No. 18617/TDS.
Date 26-8-72

Applications in the prescribed forms with attested copies of mark sheets and certificate of all the examinations passed are invited for the following posts of the University Post-graduate departments and L. R. Law College, Sambalpur.

Department/ College.	Name of the posts	No. of post
University	Reader in	1
Post-graduate Department.	Physics	
—do—	Lecturer in	1
	Biological Sciences.	
L.R. Law College, Sambalpur	Reader in Law	1
—do—	Lecturer in Law	1

(The post of Reader in Physics is purely temporary but likely to be made permanent).

II. Scale of Pay : (i) Reader : Rs. 700-50-1250/- (ii) Lecturer : Rs. 400-40-800-50-950/-

III. Age of Retirement : Sixty years of age.

IV. Qualification Essential :
(a) Reader in Physics : (i) At least a Second Class Master's degree in the subject with 48% of marks.

(ii) Eight years of teaching experience in a college or University.

(iii) Ph. D. Degree or, Research work of equivalent standard,

(iv) Capacity to guide Research Post-graduate teaching experience will be regarded as additional qualification.

(b) Lecturer in Biological Sc.
(i) At least a Second Class

Master's Degree in Botany/ Zoology/Biochemistry / Microbiology with 48% of marks.

(ii) Preference will be given to the candidates having atleast Two years of teaching experience.

(c) Reader in Law:—Atleast a Second Class Master's degree in Law and with teaching and/or Professional experience of 5 years at the Bar.

or

Atleast a Second Class Bachelor's degree in Law with 10 years teaching and or professional experience at the Bar.

(d) Lecturer in Law:—Atleast a Second Class Bachelor's degree in Law with 5 years teaching and professional experience at the Bar.

or

At least a Second Class Master's degree in Law.

(V) Qualification Desirable:—

1. Reader in Physics:—Preference will be given to the candidates having specialisation in one or more of the following subjects.

- (a) Nuclear Physics
- (b) Particles Physics
- (c) Instrumentation
- (d) Electronics
- (e) Solid State Physics

2. Lecturer in Biological Science : Preference will be given to the candidates having special knowledge in Plant Physiology and Biochemistry.

Microbial or Biochemistry.

All the posts carry usual dearness allowance as would be sanctioned by the University from time to time.

Candidates for the post of Reader should mention whether they are willing to be considered for the post of Lecturer if required to do so and in the case they should mention the minimum salary acceptable to them.

Seven copies of the application forms will be supplied from the University office to each candidate in person on cash payment of Rs. 2/- (Rupees two) only. Candidates intending to receive forms by post are required to send (a) cross Indian Postal Order of Rs. 2/- payable to the Finance Officer, Sambalpur University, Sambalpur, and (b) A self addressed envelope (23 cm X 10 cm) with postage stamp worth Rs. 2/- affixed to it with the words

'APPLICATION FORM FOR THE TEACHING POSTS IN THE SAMBALPUR UNIVERSITY' superscribed on it. Money order/cheque will not be entertained.

The last date of receipt of application in the office of the University, Budharaja Hills, Sambalpur, (Orissa) is 31-10-1972

All communication should be addressed to the undersigned by designation only.

The selected candidates must join within two months from the date of the issue of appointment order. The candidates will be required to appear for an interview at their own expenses before a selection Committee.

Suitable persons may be appointed on contract basis on a higher initial start if it is deemed desirable in the interest of the University.

Sd/- (S. SAHU)
REGISTRAR

BERHAMPUR UNIVERSITY
University Campus : Berhampur-7
Advertisement No. 2472/BU/72

Applications are invited for the following teaching posts for the Law College of this University in the scales of pay indicated against each post :

1. Professor 1 (one)
Rs. 1100-50-1300-60-1600/-
2. Lecturer (Full time) 2 (Two)
Rs. 400-40-800-50-950/-
3. Lecturer (Part time) 11 (Eleven)
Rs. 300/- (Consolidated)

Qualifications and Experience :

- I. Professor : The candidate shall :
 - (i) be a scholar of eminence,
 - (ii) Possess a First or Second class Master's Degree in Law.
 - (iii) Have a Doctorate Degree or published work of equivalent standard.
 - (iv) be engaged in active research and have experience in guiding research; and
 - (v) have teaching experience for at least 10 years in a Law College.

Note:—The Candidate selected for the post of Professor would be required to

remain in charge of the Principal of the College.

2. Lecturer (Full-time) The candidate shall have

- (i) First class or second class Master's degree in Law. Experience in teaching in the subject and research will be taken into account.
- or
- (ii) First class or Second class Bachelor's Degree in Law with minimum three years Practice at Bar and two years teaching experience.
- or
- (iii) First class or second class Bachelor's Degree in Law with at least three years teaching experience.

3. Lecturer (Part-time)

The candidate shall have a first class or second class Bachelor's Degree in Law with five years minimum practice at the Bar.

Seven copies of prescribed application form will be supplied to the candidates from the office of the undersigned on payment of Rs. 1-50 in person or by crossed Indian Postal Order payable in favour of the Registrar, Berhampur University along with a self addressed envelop measuring 22X10 cms, affixed with Postage stamps worth Rs. 0-85p. including Refugees Relief stamp worth Rs. 0-05 p. No money order will be entertained for the purpose.

The applications only filled in should reach the undersigned on or before 15-9-72. Applications received after the due date will not be entertained.

Candidates who are in service should apply through proper channel.

Sd/- (R. C. Rujaguru)
Registrar

Indian Institute of Technology, Bombay
P. O. I. I. T., Powai, Bombay-76.

Advertisement No. 726/72

Applications on plain paper are invited from the citizens of India for the following posts on or before 15-9-1972 by the Registrar, Indian Institute of Technology, Powai, Bombay-76. Copies of certificates

and crossed Indian Postal Order for Rs. 3/- (75 paise for Scheduled Caste/Tribes) for the post of at serial No 1 to 5 and Re 1/- (25 paise for Scheduled Caste/Tribes for the post at serial No. 6 payable to I.I.T. Bombay 76, should be enclosed. The post applied for may be indicated on the top of the application. Incomplete applications will not be considered. Some posts are reserved for candidates belonging to Scheduled Caste and Scheduled Tribes and Ex-Servicemen. Age preferably below 30 years, relaxable in deserving cases. All posts carry allowances such as D. A., C.C.A., etc. as per the rules of the Institute. Applicants must state :—

- a) Name in full with address
- b) Qualifications such as examinations passed, date of passing etc.
- (c) Particulars of past and present employment with salary.
- (d) Date of birth with relevant certificate.
- (e) candidates belong to SC/ST and Ex-Serviceman should attach a copy of certificate to that effect.

Posts :—

Senior Research Assistant :

Scale of Pay : Rs. 325-15-475
EB-20-575.

Departments of Chemical Engineering, Civil Engineering Mathematics, Physics.

Qualifications :

Master's degree in the appropriate field of engineering. Persons with a good Bachelor's degree in Engineering or Master's degree in science are also eligible provided they have two years' research experience in the appropriate field. Selected candidates with aptitude for research will participate in the departmental research programme and may pursue their studies for doctoral degree.

Candidates not having the requisite experience may be considered for Junior Research Assistant (in the scale of Rs. 210-10-290-15-320-EB-15-425).

2. Senior Technical Assistant

Scale of pay : Rs. 325-15-475
-EB-20-575.

Department of Aeronautical Engineering.

Qualifications :

Bachelor's degree in Aeronautical Engineering preferably with some experience or Diploma in Mechanical/Electrical Engineering with at least 5 years' experience in aero-engine maintenance and testing.

3. Junior Technical Assistant

Scale of pay: Rs. 210-10 290-15-320 EB-15-425.

Computer Centre.

Qualifications :

Degree in Electrical or Electronics Engineering or Diploma in Radio Engineering with at least two years experience with electronic equipment and testing. Preference will be given to those with a knowledge of computer technology and experience in computer operation and maintenance.

4. Foreman

Scale of pay : 370-20-420-25-575

Department of Electrical Engineering

Qualifications :

Diploma in Instrumentation Electrical Engineering. 10 years experience in Maintenance, Testing and Calibration of Electrical instruments and measuring devices. Conversant with process instruments and electronic test instruments (the functions of the post are operative and not supervisory).

5. Workshop Supervisor

Scale of Pay : Rs. 250-10 290-15-380-EB-15-470

Department of Aeronautical Engineering.

Qualifications :

Diploma in Mechanical Engineering with 3 years' experience in maintenance of Aero-Engines/Aircrafts. Should have capacity to control and organise fabrication work, the functions of the post being operative and not supervisory. Experience in Air force will be a special qualification.

6. Mechanic Grade 'A'

Scale of pay: Rs. 180-10-290-EB-15-320.

Department of Aeronautical Engineering

Qualifications :

Preferably Matriculate or equivalent and a trade certificate. 10 years' experience (including apprenticeship in a recognized workshop) in any of the following trades: Carpentry with special aptitude for aero-modelling, wind tunnel fabrication and precision formation of special shaped models.

The Maharaja Sayajirao University of Baroda

Notification No. 14

Applications in the prescribed form are invited for the following posts in the University Services :

Faculty of Technology and Engineering

1. Professor of Mechanical Engineering (Production)
2. Professor of Mechanical Engineering (Refrigeration and/or Air-Conditioning)
3. Reader in Mechanical Engineering
4. Reader in Electrical Engineering.

Grade: - Post No. 1 and 2 :

Rs. 1100-50-1300-60-1600

Post No. 3 and 4 :

Rs. 700-50-1250

Prescribed application form and details of qualifications and experience Postal Order of Rs. 1/- only.

The application form along-with the Crossed Postal Order of Rs. 7-50 for all the posts should reach the Registrar, on or before 18th September, 1972.

No correspondence will be entertained for incomplete and late applications.

Only the most suitable candidates will be called for interview.

Sd/ K. A. Amin
University Registrar

Banaras

(Advertisement)

Applications are invited for the undermentioned posts. benefit of provident Fund/Pension, Dearness Allowance, House Rent Allowance and City Compensatory Allowance are admissible according to the University Rules. The retirement age of the University employees is 60 years. The appointment will be made on two years probation on all permanent posts. Higher starting salary within the grade is admissible to specially qualified and experienced candidate.

The prescribed form for application will be sent free of cost by the Dy. Registrar (Academic), Selection Committee Section, Banaras Hindu University, Varanasi 221005 along with the leaflet of information on receipt of a self-addressed envelope (9"X4"). Applications for each post be sent separately with application fee of Rs. 7.50 remitted by Bank Draft/Crossed I.P.O. in favour of the Registrar, Banaras Hindu University. Money order or Cheque will not be accepted. Candidates called for interview will be paid Second Class Railway fare bothways by the shortest route. No other expenses will be paid. The last date for the receipt of applications is 5th October, 1972.

LAW SCHOOL

1. Professor of Law (One)

Grade : Rs. 1100-50 1300 60-1600.

Qualifications Essential: (1) Doctorate Degree in Law. (2) About 10 years teaching and/or research experience in Law. (3) Research publications in standard journals. (4) Experience of guiding research. (5) Established reputation of Scholarship. (6) Specialisation in any one of the following fields of study :—

(a) Administrative Law, (b) Business Organisation, (c) Constitutional Law, (d) Contracts, (e) Crimes, (f) Family Law, (g) International Trade, (h) Jurisprudence, (i) Labour Law, (j) Mercantile Transactions, (k) Public

surprise,
APPLICATION FOR THE TEACHING THE SAMBASITY' s...-vidence.
 orders in Law (Four)
 Grade : Rs. 700-50-1250.

Qualifications Essential : (1) A first or second class Master's Degree in Law or an equivalent qualification. (2) A Doctorate Degree and/or published work of a high merit. (3) About 5 years experience of Postgraduate research and/or of teaching Law at a University or College. (4) Experience of guiding research. (5) Specialisation in any one of the fields of study as given under qualification No. 6 for the post of professor of Law.

3. Lecturers in Law (At least 7 permanent and 2 temporary posts)
 Grade : Rs. 400-40-800-50-950.

Qualifications Essential : (1) A first or second class Master's Degree in Law or an equivalent qualification. (2) Specialisation in any one of the fields of study as given under qualification No. 6 for the post of professor of Law. **Desirable :** (1) Aptitude for research as indicated by published work. (2) Experience of teaching Law in a University or College. (3) Ability to teach in Hindi.

Note : Those who have applied for the posts of Reader and Lecturer in Law in response to our earlier advertisement No. 12/71-72 need not apply again. Their cases will be considered along with the applications which will be received in response to this advertisement.

Institute of Technology

4. Professor of Civil Engineering (One)

Grade : Rs. 1100-50-1300-60-1600

Qualifications Essential : (1) A first or second class Master's Degree in the subject or an equivalent qualification. (2) Research degree of a Doctorate standard and/or published work of a high standard in reputed journals. (3) About 10 years experience in responsible position in Teaching/Research/Industry. (4) Specialisation in Structural Engineering.

(5) Experience of having guided research work of a high standard or evidence of original work in Design/Development. **Desirable :** (1) Research publications in standard journals or books. (2) Corporate Membership/Fellowship of professional Organisations/Learned Societies.

Institute of Medical Sciences
5. Lecturer in Physiology [One]
 Grade : Rs. 400-40-800-50-950.

Qualifications Essential : A first or second class M.Sc. Degree in physiology or Biochemistry or an equivalent qualification. (2) Ph.D. Degree in Physiology or Biochemistry. (3) About two years teaching experience in a Medical College or a Science College. **Desirable :** (1) Experience in research preferably in Biochemistry/Indigenous medicine.

6. Physiatrist [One]
 Grade : Rs. 400-40-800-50-950 plus N.P.A. @ Rs. 300/- p.m.

Qualifications Essential : (1) M.B.B.S. Degree or an equivalent qualification recognised by the Medical Council of India. (2) M.S. Degree in Orthopaedic Surgery or an equivalent qualification. (3) Diploma or Degree in physical Medicine and Rehabilitation. (4) About two years experience of physical Medicine and Rehabilitation in a recognised Hospital. **Desirable :** (i) Research publications.

Note : Qualifications relaxable in case of experienced candidates if otherwise found suitable.

Faculty of Arts

7. Reader in Bengali (one)
 Grade : Rs. 700- 0-1250

Qualifications Essential: (1) A first or second class Master's Degree in Bengali or an equivalent qualification. (2) A Doctorate Degree and/or published work of a high merit in reputed journals. (3) About 5 years experience of Post-doctoral research and/or of teaching at a University or College. (4) Experienced of guiding research.

Faculty of Agriculture
8. Reader in Agricultural Economics

Grade Rs. 700-50-1250

Qualifications Essential : (1) A first or second class M. Sc. [Ag.] Degree in Agricultural Economics or an equivalent qualification in the subject. (2) A Doctorate Degree and/or published work of a high merit in reputed journals. (3) About 5 years experience of Post Doctoral and/or of teaching at a University or College (4) Experience of guiding research.

9. Lecturer in Agricultural Economics (Temp. leave vacancy for about three years)
 Grade : Rs. 400-40-800-50-950.

Qualifications Essential . (i) A first or second class M. Sc. [Ag.] Degree in Agricultural Economics or an equivalent qualification. **Desirable :** (1) Aptitude for research as indicated by published work. (2) Doctorate Degree in the subject and/or some teaching experience.

10. Instructor in Agricultural Extension [One]
 Grade : Rs. 300-25-600

Qualifications Essential. (1) A first or second class M.Sc. [Ag.] degree in Extension or Agronomy or Agricultural Economics. **Desirable :** Some experience of teaching and field extension work

Women's College

11. Reader in Political Science [One] [For ladies only]
 Grade . Rs. 700-50-1250

Qualifications Essential (1) A first or second class Master's degree in the subject or an equivalent qualification (2) Either a Doctorate Degree or published work of a high merit. (3) About 5 years experience of post doctoral research and/or teaching at a University or postgraduate College. **Desirable :** (1) Experience of guiding research. (2) Specialisation in Indian Government and Politics or Political Sociology. (3) Ability to teach through Hindi Medium.

Note : Those who have applied in response to our earlier Advertisement No. 21/71-72 need not apply again.

PANJAB UNIVERSITY

(Advertisement No. 45/72)

Applications are invited for the post of Deputy Librarian, Panjab University, Chandigarh along with postal orders of Rs. 7.50 so as to reach the Registrar, Panjab University, Chandigarh by September 30, 1972.

Grade : Rs. 700-50-1250 with allowances and other benefits as admissible under the University rules.

Qualifications :

Essential. 1st/2nd Class M.A./M.Sc. and 1st or 2nd Class M.Lib. Sc. Degree. At least seven years' experience of working in an academic Library in some responsible capacity and 5 years experience of teaching post graduate classes in Library Science.

Desirable. Doctoral Degree in Library Science Knowledge of Hindi and Panjabi.

Note. 5 years experience of teaching post graduate classes can be relaxed in case the professional competence or the research achievement of a candidate is considered outstanding.

Persons already in service should route their applications through proper channel.

Application forms can be had from the office of the Finance &

Development Officer, Panjab University, Chandigarh by making a written request accompanied with self-addressed stamped envelope of 23 x 10 cms.

PANJAB UNIVERSITY

(Advertisement No. 46/72)

Applications are invited for the posts of Readers and Lecturers in the Department of Laws, so as to reach the Registrar, Panjab University, Chandigarh, by September 25, 1972, along with postal orders for Rs. 7.50.

Pay Scale : Reader
Rs 700-50-1250

Lecturer Rs. 400-40-800-50-950

Allowances as admissible under the University rules. Benefit of Provident Fund on confirmation. Appointments against substantive posts will be initially on one year's probation.

Qualifications

Readers

Essential

(i) A first or second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the relevant subject with bright academic record ;

(ii) Either a research degree of doctoral standard or published research work of a high standard

in journals of repute ;

(iii) About five years to experience of post-graduate class at University or College Level ;

(iv) Experience of guiding research at post-graduate and/or post-doctoral levels.

Desirable

Experience as an Advocate.

Lecturers

Essential

(i) A first or second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the relevant subject ;

Desirable

(i) Published research work ;
(ii) Doctoral Degree and teaching experience of law classes.

Persons already in service should route their applications through their employers. Travelling allowance is admissible under the University rules to the candidates invited for interview from distance of more than 400 Kms.

Application forms can be obtained from the Office of the Finance & Development Officer, Panjab University, Chandigarh by making a written request accompanied with a self-addressed stamped envelope of 23x10 cms.

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MY MOVEMENTS ARE INTERNATIONAL !



AIR-INDIA

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Editor : W. D. MIRANSHAH (Telephone : 276802)

AS THE FACULTY WEPT...

...the politician laughed a loud, vulgar laughter—this time at the G. B. Pant University, where the song of the golden corn used to mix with the merry cries of students. No more is the song; no more the merry air. Now it is politics—the kind of politics that has made the Delhi citizen walk home, the buses having been either hijacked or damaged so much that all what is left of them is their crumpled number plates; the kind of politics which takes its toll every year round the world; the kind of politics which has made the teacher dread his student, the Vice-Chancellor his professor, the father his son—the misguided, destructive politics of the gutter!

As the press reported that all of the 2500 students had been asked to quit the Campus—voluntarily or by force—we were startled, to say the least—and disturbed, to say the most. When we actually recovered from the shock of it all, our next dive was to buttonhole the Vice-Chancellor—and others to ask them what had so suddenly turned the long, enduring peace of the countryside university into a warlike jungle of Vietnam.

The press was wrong; and it had backed the wrong winners—the university was forced into closure by a crippling student strike and agitation some days before September 12. The Academic Council was forced into it much against its wishes—and much more against its convictions.

Anyhow, the circumstances, which came to light as we dug for facts

to an overall picture, are all here. The events fit the usual agitational pattern so much evident these days. It is said that some students put up demands. The authorities considered them personal in character and, therefore, somewhat “irrelevant in the context of the pattern of education and examination” at that University. A student’s case for reinstatement was, however, conceded primarily “because the matter had been referred to the Chancellor.” And the university promised the students that even these demands would be considered “in the appropriate bodies meant for the purpose.”

Thereupon, it is understood that a section of students insisted: “The demands must be met by 5 P. M. of the 11th September.” Along with this deadline, they also announced that they would sit in hunger-strike right in front of the Vice-Chancellor’s office, the Prime Minister’s, and that of the Chief Minister’s. They “prevented” other students from attending classes; and even barred them from a casual, hurried bite at the nearby cafeterias.

When so much happened in so little a time, the authorities felt that actual violence was not very far. At this stage, on the 11th September, an emergency sitting of the Academic Council decided to close down the university for one month.

The Vice-Chancellor made it amply clear in his September-15 statement that the agitation had nothing to do with

"maladministration or prevalence of corruption and other (such) evils." He went so far as to suggest that no specific points had at all been raised in the charter of demands—presented to him on September 11—against any member of the staff. Never was his resignation ever demanded, although some individuals in the mob did shout some unsavoury slogans. It was also not found on the revised list of demands submitted on the 11th September clearly inspired by outside elements. Indeed, it was the Vice-Chancellor himself who had offered to a students' gathering: "If I lost the confidence of more than 10 percent students, I would not continue in this position."

The Vice Chancellor believes that the university should be governed *not* by strikes and demonstrations but by mutual trust and goodwill between students and the staff: "If at all there is any question, it should be settled amicably at one of the several forums as the Campus Council, Academic Council, Sports Council, Food Committees and other allied bodies of the university—even by approaching the Board of Management, the Chancellor or by recourse to a court of law, if the worst comes to the worst." Besides, he considers that the bond between him and the students is somewhat like the one which exists between parents and children: "Once it has ceased to exist, it is quite appropriate that I should make room for somebody else." The V. C.'s intention to resign should, therefore, be read more as the expression of such a sentiment. It may be remembered that his instructions were rudely defied by some elements, when he told them to stop booing at a meeting attended by some 1400 students. A majority of the others, however, tendered an apology immediately in the gallery and, later, in his office.

A call to the PAC to come to the campus was intended to meet the situation if violence actually did break out. But in no case—and at no time—were

there more than 18 persons of the PAC near the campus. Besides, they were posted to protect the V. C.'s residence—and that of the Dean of the Students Welfare. And, later on, when students had to move out, both transport and protection were provided by the authorities. Even loans were given. The idea was to vacate the campus peacefully and frustrate the designs of trouble-makers.

The trouble was engineered by one staff member—now no more in the employ of the university—joined by some others, against whom the authorities are proceeding now on disciplinary grounds. And they carried on a propaganda of "baseless and fantastic lies." If at all they managed to get any support, it came only from a "stubborn minority of disgruntled students with poor academic performance." And, of course there are political elements among the local populace who take advantage of a situation like this. No wonder, therefore, that the demands voiced were really intended to shake up the very basis of the university—the high standards. Examine these demands: awarding Honour's degree on the minimum OGPA, viz. 3.000, and awarding First Division on 3.500, instead of 3.750; not counting of "E" grades; allowing postgraduate students to continue with "C" grades in more than 9 credit courses, reduction in the compulsory attendance from 85% to 75%; abolition of the Discipline Committee; establishment of a Students' Union and recall of two students against whom disciplinary action has been taken.

The Vice-Chancellor is likely to move the court of law for protection against certain outsiders. A Deans' enquiry committee is going to probe the whole background and the nature of what happened at the university, to determine the real extent of student and staff involvement.

And, happily, the university expects to reopen soon enough

—W. D. Miranshah

UGC Approves Schemes For Three A. P. Universities

The Chief Minister of Andhra Pradesh stated in the Legislative Assembly on September 26 that the UGC had approved schemes which would cost over Rs. 2.69 crores required for implementing the schemes.

vernment : "With proper coordination obtaining now between the university and the Government, no difficulty is expected."

The other important information which the Minister provided to the House related to the suggestion of the Planning Commission for the setting up of an Apex Board for scientific and technological policy by the State Govt. on the lines of the National Committee on Science and Technology.

"If man teachers
do
not come
round, they will
be replaced by
women."

—V. V. Giri

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TECH. SEMINAR

A PIB press release has announced that the Government of India will hold an International Seminar on Technology Transfer in New Delhi, sometime in December this year, with the assistance of United Nations (UNIDO).

To be organized by the Council of Scientific and Industrial Research (CSIR), the Seminar is expected to be attended by representatives of nearly 60 countries. It will deal with a number of industrial topics, both sophisticated and traditional, and will specifically consider the issues of the transfer of technology from the advanced to the developing countries; between one developing country and another; and from research laboratories to industries, within the developing countries.

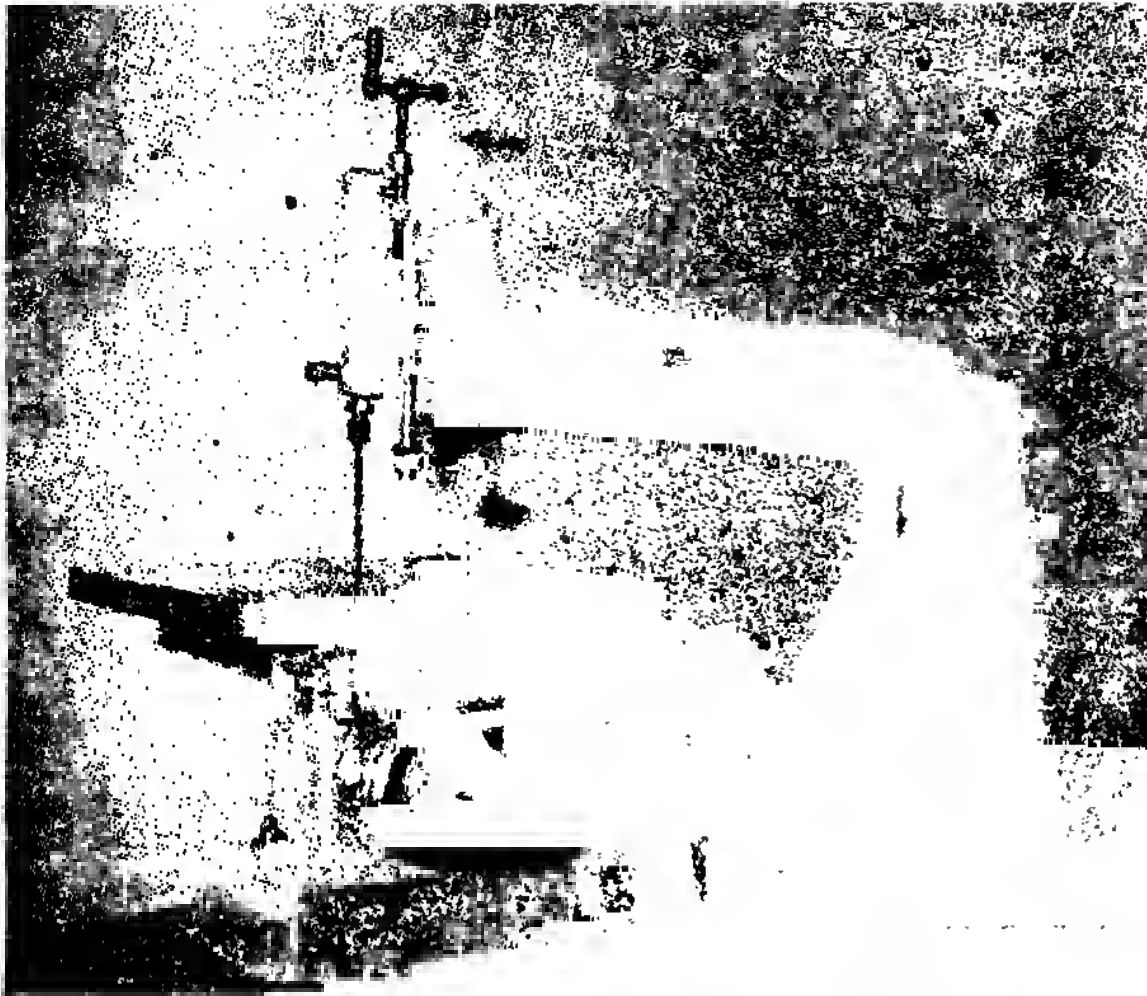
nal assessment, too, it was argued might be given due importance as recommended by the Indian Medical Council. Representation of medical students on academic bodies and university and college administration councils and the creation of curriculum committees at college level were the other two demands.

The seminar favoured a ban on private practice by medical officers of Government, although non-practising allowance in lieu of it could be given. In this context, the seminar also suggested the creation of an Indian Medical Service.

The seminar ended up by forming a national organisation on medical education to do the follow-up of seminar recommendations.

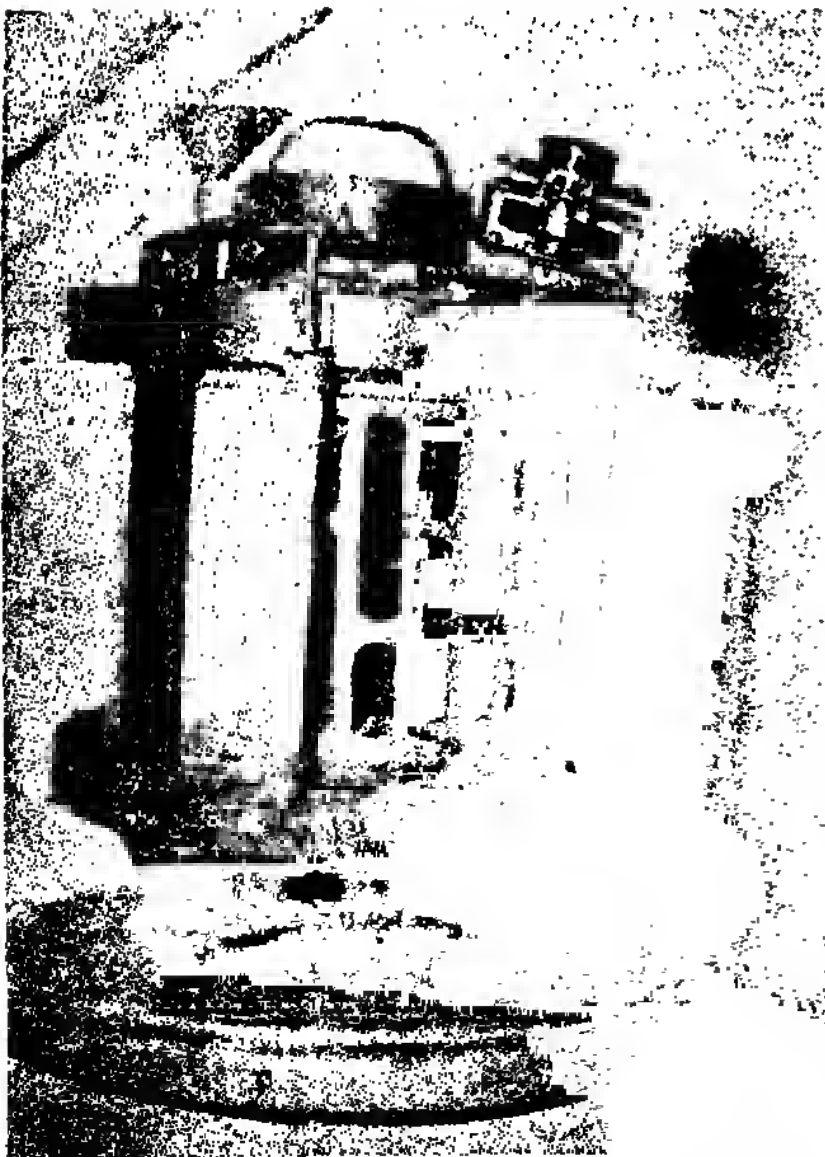
The President warned them that if they did not realise their responsibilities, the only way to deal with them would be to substitute them by women teachers: "We must take courage and tell to ourselves that the country is going to rack and ruin on account of the malpractices prevailing in our country especially among the teacher population." The President feared that if such a state of affairs continued very bad days were ahead of the country.

The President regretted that boys went on strike without cause or reason, and that there was no reason for fighting on the language issue: "I see no reason why Indian children who are intelligent should not learn three languages—the national language, the link language Hindi—and the international language—English."

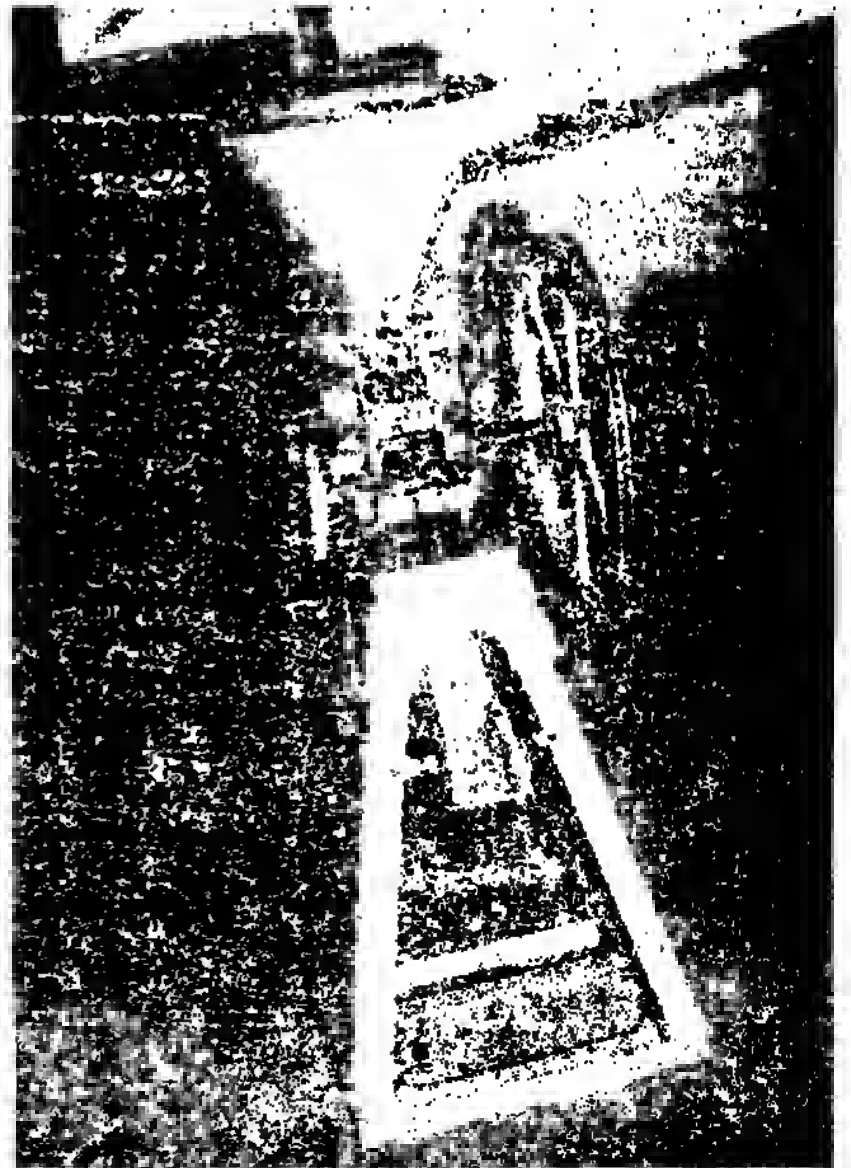


Jig.—Saw Machine

PUNJAB STUDENTS' INVENTIONS SURPRISE MANY !



Multipurpose Fan
(can cool as well as heat the room)



Roller Crusher Machine

August 18 : At Chandigarh opened today an unusual exhibition: it proved what extra-ordinary skill the students of the Punjab Engineering College were endowed with.

On display you found scores of engineering models and projects—designed and fabricated entirely by students under the guidance of their teachers.

The Metallurgical section showed the working principles of a boiling-water reactor, with uranium fuel elements arranged in lattice submerged in a heavy water moderator. Yet another model showed a modern blast furnace of Bhilai, with all its accessories. On the other hand, electrical engineering students designed an amateur wireless station. There was even an amateur radio—the duly-licensed communication among private citizens, who are allowed to operate a two-way non-profit radio communication.

An equally interesting item was a telephone amplifier. You could use this instrument to record conversation without tampering with the circuit. Artificial rain could be created, too—you saw the elaborate equipment for rain-making in laboratory premises as and when you like so as to carry out the wet test on insulators.

The mechanical engineering department demonstrated the steam power plant, and a model of the automatic entrance door—it slides into the wall, when a person steps in, and closes behind him when he steps out. Electric train elements, the washing machine and even a multipurpose fan-cum-heater-cum-cooler which weighed a mere 6 kg. and cost less than 60 rupees.

The Aeronautical Engineering Department displayed an aircraft and a model of the hovercraft together with a flying control. The Production Engineering Department showed paddy dehusker and the rice polisher.

And there was even a vote-counting machine.

There was something for children too—a traffic park designed by the Civil Engineering Department. It included roads, road intersections, road signs and traffic signal.



Electronic Desk Calculator



(Above) Washing Machines

(Below) Synchronous switch and artificial transmission line



Arab Book Centre being set up at Cairo

A regional book centre is to be set up in Cairo.

Participants from 13 Arab countries, last month in Cairo under Unesco auspices, unanimously decided to establish the centre to promote long-term planning in book production, training of professional staff, development of library services, translations from Arabic into other languages and the reduction of obstacles, which at present hinder the flow of books between the countries of the Arab region. Measures will also be taken to promote the production and distribution of low cost books.

The Egyptian government has offered to contribute to the operating costs and provide facilities for the new centre to be located probably in the new National Library building in Cairo.

The Cairo meeting—latest in a series of regional conferences on book development organized by Unesco in Africa, Asia and Latin America—brought together leading publishers, educators and librarians from Algeria, the Arab Republic of Egypt, Iraq, Jordan, Kuwait, Lebanon, Libyan Arab Republic, Morocco, Qatar, Syrian Arab Republic, Tunisia, Yemen Arab Republic and the People's Republic of Yemen.

The meeting was chaired by Dr. Mahmoud El Sheniti, head of the General Egyptian Book Organization.

COMMERCE INSTITUTE FOR HYDERABAD

Establishment of a Central Institute of Commerce—supposed to be the very first of its kind in India—has been approved both by the Union and the Andhra Pradesh Governments.

The Institute has been sponsored by and organization of the Osmania Graduates' Association—the Exhibition Society of Hyderabad—and is being set up under the All India Council of Technical Education with Central and State assistance. Probably, the Institute will commence its working next month—likely date: Mahatma Gandhi's birthday.

The Institute is expected to function as a model for commercial educational institutions, which aim to provide utilitarian technical education in commerce, leading to post-matriculate and post-graduate government diplomas.

It will make a beginning by imparting instruction for a two-year, post-matriculate course offered by polytechnics on the basis of curriculum of national diplomas in commerce. Later on, it will add on the post-graduate diploma courses as well. These will include studies for diploma in costing, tax laws, business management and labour relations.

Fellowships of Dravidian Assn. Announced

The Dravidian Linguistics Association has announced a scheme of awarding eight fellowships—four senior and four junior. The senior fellowships are for mature scholars and the junior are for young scholars so that they are able to sit in seminars and do research on topics like commonness in grammar, metre, folklore, dialects and music. The senior fellowships will be of the value of Rs. 2,000 per month; the junior of Rs. 500.

The Tamil Nadu Government has sanctioned Rs. 40,000 for the project this year.

The project is likely to bring together major languages of South India and the Dravidian languages spoken outside India—in countries like Nepal, Pakistan, Afghanistan, Iran and some in the Far East.

The Association is concerned about the overly long isolation of Tamil, Malayalam, Kannada and Telugu, keeping people from realising the commonness of their culture and the greatness of Dravidian heritage.

The senior research fellows will be generally scholars of renown; the junior fellows will be appointed, however, on the basis of merit. They could pursue their research work at any of the South Indian Universities.

Pestalozzi Prize for Georg Eckert

The 10,000 mark Pestalozzi Prize for educational activities aimed at helping international understanding has been awarded to the president of the German National Commission for Unesco, Professor Georg Eckert. Professor Eckert, who is the founder of the International School-book Institute at Brunswick, received the prize at the "Didacta" exhibition in Hanover.

99 Teachers Get State Awards

Some ninety-nine teachers have this year been selected for annual national awards—consisting of a certificate of merit and the amount of Rs. 1,000 in cash. Of them, 55 are primary school teachers; 35 of them being secondary; and 9 Sanskrit teachers. Women award winners happen to be 9.

The total number of teachers selected since 1958, the year these awards were instituted is 1801. These awards were instituted primarily to boost up the teacher's image and to recognise his public service.

Ontario Conference on Geography— Aligarh Prof. Reads a Paper

Presiding over the annual conference of International Commission on Applied Geography, Prof. Mohd. Shafi of Aligarh Muslim University emphasised that Geographers could play a vital role in the economic and social progress of the country,

He further gave an account of major accomplishments in the field of Applied Geography in India.

The conference was held recently at Ontario, Canada. Prof. Shafi is one of the five members of the commission and has been re-elected to the world body during the conference.

Prof. Shafi, who has just returned from Canada, also read a paper on "Priority regions of increasing food production in India" at the 22nd International Geographical Congress held at Montreal.

In his paper, Prof Shafi referred to the technique adopted by him for delimiting deficiency regions of food crop production and the areas which need priority. This aroused considerable interest among geographers.

According to Prof. Shafi, over 2500 delegates from 75 countries attended the Congress.

Later, at a symposium on World Agricultural Typology, he presided over the session where papers relating to the types of agriculture in developing countries were discussed and problems thrashed.

Prof. Shafi is Head of Geography department and Director of academic programmes in the Aligarh Muslim University.

"Educational expenditure should be lower than G.N.P. increase."—Adiseshiah

Dr. Malcolm Adiseshiah said at a Penang Conference, attended by representatives from many countries, including India, Japan, Thailand, Indonesia, Hongkong and the Philippines, that expenditure on education was excessive. He felt that too much money was being spent on education in Asia: "The present annual rate of increase in the expenditure of 12 to 15 percent must be cut to three to five percent." He held the

view that there was much wastage: "as high as 73 crores of rupees each year at the first level of education in Asia." He suggested that the rate of growth of educational expenditure should be lower than the GNP increase: "Education is becoming a major constraint, instead of being the major promoter of national development considering the present unabated rate of increase in educational expenditure."

MAHEU ANALYSES WORLD LITERACY : 783 Million illiterates by 1980 ?

The Director-General of the United Nations Educational, Scientific and Cultural Organization (UNESCO), Rene Maheu, has called for increased efforts to wipe out illiteracy throughout the world.

Addressing ceremonies for International Literacy Day at UNESCO headquarters in Paris, Mr. Maheu noted that while the percentage of illiteracy has decreased from 44.3 percent to 34.2 percent and the number of new illiterates has increased from 879 million to 1,054 million between 1950 and 1970, the total number of illiterates has increased by 83 million because of the population growth.

As a first step, the UNESCO General Conference will be asked to ensure that in 1980 the number of illiterates in the world would not surpass the figure for 1970—that is, 783 million adults, which would mean an illiteracy rate of 27.7 percent, taking account of the population growth.

The Minister of State for Education of Bihar, Mr. Dinesh Kumar Singh, informed the Vidhan Sabha, during the question-hour on September 1, that the Government was not proposing to alter the name of Bihar University to Valshali University, since after the formation of the Mithila University the jurisdiction of Bihar University had been limited to Saran, Champaran and Muzaffarpur districts. The other reason given by the Minister was legal complications.

Kerala Home Minister warns College Managements

The Kerala Home Minister, Mr. K. Karunakaran, said at Kozhikode on September 3 that the Government would take strong action against all those private colleges which failed to honour the agreement concluded between private management and the Kerala Government. He told reporters that either they should "implement the agreement fully or face the consequences".

The Minister referred to complaints by some students, who had earlier opposed private college managements during the agitation, and said: "We take a serious view of the situation and will deal with it firmly." He cited widespread complaints that such students had been denied admission.

PAU Evolves A New Variety

September 21—Ludhiana

A huge Kisan Mela began here today at the campus of the Punjab Agricultural University. The University has evolved a new variety of wheat called WG-357, the seed of which is being sold for the first time in small packets of 4 kgs at Rs. 10 each. This was the main reason for the Mela being bigger than ever before. The Department of Agriculture, Punjab has also organised a big exhibition in collaboration with other Development Departments.

The new wheat evolved is a cross between C 273, a local Punjab variety and PV 18, a high yielding Mexican variety popular in Punjab till Kalyan 227 overtook it because of its finer grain. This new variety has a much finer grain than Kalyan Sona and even the old local varieties.

The farmers were shown round the experimental farms by university experts. These experimental farms do not merely show good crops but the effects of various deficiencies and failures. For instance, the demonstrations of the soils department aimed at showing how badly the crops of rice and maize fared when a minor element like zinc was not applied to them.

SUNFLOWER—For the first time this year, the University is advising the sowing of the oil-yielding crop of sunflower because it has 'a good future in Punjab'. The experts say that a good deal of success had been attained on a 100 acres put under this crop. This is one crop which can be grown 'any time during the year' because it is insensitive to light duration and temperature. Its oil is used in vanaspati manufacture, soap making, etc.

The projects in progress at present in advance to be undertaken during the period of the Fifth Plan by the Indian Council of Agricultural Research envisage an outlay approximating 1000 million.

The projects will be ready by the end of the current financial year. This much is clear from the Council's approach paper on research and education and agriculture, animal sciences and fisheries for the fifth plan period.

The Council feels that it will be necessary to streamline financial procedures to make things expeditious. The creation of two types of funds has been suggested: the national agriculture research fund and the national agricultural university development fund.

1000 CRORES FOR I.C.A.R'S RESEARCH

Whereas the first will be expected to look after the requirements of ICAR for its headquarters and the institutes, the other would be used to fulfil requirements of various agricultural universities, especially in research, training and extension education programmes.

Another step being contemplated is the plan projects committee whose Ex-officio Chairman is likely to be the Director-General of ICAR. The idea of this committee is that once it has cleared certain projects, these need not to be referred again to any other body—like the Finance Ministry and the Planning Commission—for concurrence.

One more significant item, which the project paper has discussed, is the Information Cell. This will be situated at the headquarters, acting as a storehouse of information on agricultural research.

SOME GLIMPSES OF GUJARAT STATE UNIVERSITY BOOK PRODUCTION BOARD

The University Book Production Board was constituted in August, 1969 to produce books which would be useful for undergraduate and post-graduate courses in Gujarati language. The Board also produces reference books, which may be useful for higher education. The Board is now registered as a Society and is an autonomous body. It consists of 31 members, and is headed by the State Minister for Education, Shri Gordhandas Chokhawala. The Vice-Chancellors of seven universities of the State are members of the Board besides heads of certain departments connected with education. Besides these officials, certain prominent persons connected with the trade are also included as members of the Board.

During its career of two years since its inception the Board has published 75 books and has a target of 520 books. The Govt. of India has earmarked Rs. 1 crore for each language of the Union. The Board issued invitations for 520 books, entered into contracts for 400 titles approved 250 synopsis and published 75 volumes, out of which 57 were published during second year. The subject-wise break-up of these 57 volumes is as under :-

- (1) History—2.
- (2) Commerce—1.
- (3) Engineering—1.
- (4) Geography—1.
- (5) Law—1.

- (6) Chemistry—3.
- (7) Mathematics—6.
- (8) Co-operation—3.
- (9) Education—2.
- (10) Philosophy Religion—9.
- (11) Pharmacy—1.
- (12) Literature—1.
- (13) Political Science—1.
- (14) Economics—2.
- (15) Physics—3.
- (16) Biology—3.
- Zoology
- (17) Agriculture & Rural Science—9.
- (18) Psychology—2.
- (19) Dramatics—3.
- (20) Ayurved—6.
- (21) Health & Hygiene—1.
- (22) Guide Lines to Authors—1.
- (23) Astrology—1.

Total 57

When the year closed further 40 scripts, as under, were in a very advance stage of printing and the Board released its 100th publication. The subject-wise break-up of the 520 titles is as under :

- (1) Economics—20.
- (2) Botany—32.
- (3) Education—35.
- (4) Law—25.
- (5) Physics—32.
- (6) Chemistry—21.
- (7) History—47.
- (8) Architecture—10.
- (9) Medicine—13.
- (10) Ayurved—13.
- (11) Technical Education—42.
- (12) Geology—1.
- (13) Home Science—2.
- (14) Journalism—4.
- (15) Rural Science—5.
- (16) Pharmacy—10.
- (17) Animal Husbandary—24.
- (18) Geography—15.
- (19) Aesthetics—22.
- (20) Psychology—34.
- (21) Dramatics—16.
- (22) Philosophy—27.
- (23) Commerce—29.

- (24) Political Science—6.
- (25) Sociology—17.
- (26) Astronomy—1.
- (27) Mathematics—18.
- (28) Linguistics—7.

Total 520

During August, the Board organised a Seminar of authors, in which 75 authors participated and discussed various aspects of writing including style, terminology and standard.

During the year 1971-72, the Board issued its 25th publication, and also its other publications under the schemes of Kishor-Bharati and Vigyan Parichaya. The Board participated in the World Book Fair held at Delhi in March, 1972. Besides producing university level textbooks, the Board is engaged in preparing reference books, such as Gujarati-English Dictionary ; Revised Edition of Bhagvad-go-Mandal Kosh ; Consolidated Dictionary of Technical Terms in Gujarati ; Census Atlas of Gujarati ; Literary Criticism in the West and in the East. Besides these publications which are financed by the Central Government, the Board has received generous donations from a leading Saint Shri Mota. With the help of these donations, the Board has undertaken publications of books on Science as well as general books, which may be useful to adolescents. The Board issued booklets on Vedas also. It is also engaged in compiling Etymology of Gujarati language.

The sales of the books published by the Board are managed by Balgovind Booksellers of Ahmedabad. Whatever proceeds are received by way of sales of the books, are credited to the Revolving Fund created by the Board with a view to making the Board a self-sufficient body.

The Board is receiving very good co-operation from all the Universities of the State as well as other educationists and literary institutions of the State. The books published by the board are being received with enthusiasm by universities.

Brain-drain

from developing

countries

WHEN SOME TIME BACK Dr. Hargobind Khurana became a Nobel Prize winner, India did not share in the glory. Dr. Khurana accepted the honour as a US citizen, he was the pride of American science.

Behind the fate of Khurana one discerns a formidable phenomenon of present-day civilisation called "brain drain". The migration of intellectuals does not come about spontaneously, it is the result of deliberate actions on the part of developed imperialist states, a variant of the old strategy aimed at asserting their economic and political domination. The holds packed with spices and rubber were the heritage of the 19th century colonialists. Today it is the efficient and trained brain of a foreign specialist that becomes the object of plunder.

Statistics have recorded curious shifts in the geography of these operations. Since the second half of the sixties the net of "brain" hunters has been cast in the main in the "third world". Thus, already in 1967 the share of the developing countries in the total immigration to the USA reached 52 per cent, while in the next three years the figure leapt to the 72 per cent. Leading among the Asian donor countries is India which lost 2,900 diplomaed scientists, engineers and doctors in 1970. In Latin America it is Mexico that is suffering most from the plunder of intellectual resources—over the past decade 62,000 specialists have migrated from the country.

What skeleton-keys helped to steal these "brains"? In the first place use is made of so-called "scientific and technical gap" between the USA and her accomplices in intellectual plunder, and the victim countries.

Brain Hunt Methods

The Western information services, in doing the social bidding of their monopolies, are inundating the "third world" with promises of better working conditions and higher earnings which they allege await highly trained emigre specialists. The vicious circle is created: the greater the outflow of specialists as a result of the "scientific-technical gap", that heritage of the colonial past, the wider the gap itself. But the main harvest is reaped by special methods of hunting for "brains". Packs of professional recruiters fine-comb universities and research centres of developing countries. Scientists coming to various kinds of forums are encouraged not to return. Finally, the nets are spread directly in western colleges where large numbers of students from the "third world" countries study. As a result 90 per cent of Asian youth who obtain education in the USA are "tied" in advance to jobs outside their home countries.

One need not guess who suffers financially from this enticement of talents. It is common knowledge that it takes 20,000 to 50,000 dollars to train a specialist. Thus, immigration to the USA alone is equivalent to the loss of capital investments by donor countries of the level of 150 million dollars a year! But this is not all. It has been calculated that within his lifetime a specialist produces an average half a million dollars' worth of material and spiritual values. Therefore one can understand the alarm of members of the 19th Pugwash Conference which expressed the view that the consequences of brain drain are as serious as the problem of hunger and overpopulation".

Israel Joins Brain Kidnappers

Lately the clan of "brain" kidnappers has been joined by Israel. The enthusiasm with which Tel Aviv set about stealing the intellectual potential of other countries is explained simply: the Israeli system of higher education is in the grip of severe crises. The militarisation of the economy and the immense rise in military expenditure have hit the pocket of the tax-payers. It is enough to say that the last two years have put on the Israel is the burden of the world's highest taxes and a new leap in prices for domestic appliances. As a result, almost half of the rising generation are denied the right to study which, in Israel, costs 1,000 pounds a year.

Furthermore, the schools and colleges are closed tight against Sephardi. (Spanish and Portuguese) Jews and the Arabs population of Israel. Schools with no one to attend them, empty colleges... this yawning gap in personnel training is now being filled by the Israeli authorities with foreign specialists.

Resort is made to the same old Zionist theory about 'territorial concentration' of Jews in Palestine as a means of solving the "world Jewish problems". Today, however, what is being solved is not this mythical problem, but a more concrete one: how to lure highly trained scientific and technical personnel without whom the Israeli economy is gasping.

Courtesy—Youth Review

TAMILNADU RURAL ECONOMICS: The Impact of Research on Cotton By Dr. G. Rangaswami Vice-Chancellor Tamilnadu Agricultural University

Cotton is one of the important commercial crops under cultivation in Tamil Nadu, occupying an area of 4.11 lakh hectares, with a total production of 4.17 lakhs of bales every year. It occupies a premier place also in the industrial economy of Tamil Nadu, as it supplies part of the raw materials needed for the 207 spinning mills in the State. It has been estimated that, for meeting the requirements of cloth for its own population and to stabilise the textile industry, Tamil Nadu will have to produce at least 12 lakhs bales every year--or three times of what is being produced in the State. Concentrated efforts are, therefore, necessary for stepping up cotton production to the maximum.

The Situation Now

In Tamil Nadu cotton is grown in four seasons. In the area of black soil, which stretches from Thiruchirappalli to Thirunelveli, the crop is rainfed (October—February); The irrigated crop (August—February) in Coimbatore district; and, in the summer season (February—June) in the black soil tract of Ramanathapuram and Thirunelveli districts.

The crop is also grown in rotation with paddy during February—June in the rice fallows of Thiruchirappalli and Thanjavur districts.

Research on crop improvement of rainfed cotton in Tamil Nadu was started in 1901 with the establishment of an Agricultural Research Station at Koilpatti. Cambodia cotton was introduced in Tamil Nadu in 1906 through a handful of seeds picked from a few bales of lint imported at Pondicherry. The yield potential of this variety, when grown under irrigation, was recognised and, with the assistance from the State Department of Agriculture, the variety spread to an area of one lakh hectares in 1920. The erstwhile Indian Central Cotton Committee in 1919 had recommended the appointment of a Research Officer for investigating the cause of deterioration of the introduced and acclimatized variety of Cambodia Cotton in Tamil Nadu. A whole-time Cotton Specialist was appointed in 1920, and the Cotton Breeding Station at Coimbatore was established. Intensification of Research on Cotton since 1920 has resulted in a steady progress not only in the enhancement of yield per hectare but also in the improvement of its quality, both in respect of rainfed and irrigated varieties.

Continuing Research

The first improved strain of Karunganni Cotton K1 was developed by pureline selection in the mass bulks of the local variety of cotton grown in the Southern districts of the State. As against the yield potential of 300 kg of kapas per hectare and the spinning capacity of 14's of the local, K1 had an yield potential of 350 kg of kapas, spinning 24 counts. The strain was released in 1934-35 and had spread to an area of nearly 1.2 lakh hectares out of a total area of 2.5 lakhs of hectares under rainfed cotton in the tract. Owing to its susceptibility to wilt and bud shedding, the yield and quality of K1 deteriorated within ten years of its release. Strain K2, evolved by rigorous selection made at Koilpatti with the hybrid derivatives obtained from the Madras Herbaceum Scheme at Coimbatore was free from the defects of K1 and was distributed to cultivators in 1947-48. Three more strains K3, K4 and K5 developed in subsequent years did not find much favour with the farmers. Work on further improvement both for yield and quality was continued which resulted in the release of the outstanding strains K6, K7 and K8 in the year 1957, 1964 and 1972 respectively.

Pureline selection on Cambodia Cotton was started at the Cotton Breeding Station in 1920 and two strains Co.1 and Co.2 were released in 1929. Of the two strains, Co.2 became more popular covering a large area in Coimbatore district. To effect further improvement in production, strain Co.2 was crossed with a few South African varieties introduced from Uganda. As a result of this cross, the duration of Cambodia Cotton which was about seven months was brought down to six months and spinning counts of yarn were advanced from 28 to 40's. The best of the promising selections among the derivatives of these crosses was released as MCU 1 (Madras Cambodia Uganda—1) in 1943. The performance of this variety was consistently good in winter and summer and it came up well both under rainfed and irrigated conditions. Further selection work on the development of varieties superior to (MCU. 1 resulted in the release of) MCU. 2 in 1954, MCU.3 in 1959 MCU.4 in 1967 and MCU.5 in 1968.

For the successful cultivation of cotton in rotation with paddy in rice fallows in areas where facilities for irrigation are available during the summer season

a short duration variety of cotton was required. Among the several introductions tried, a *hirsutum* variety P. 216F from Punjab was found suited to rice fallows of the Manapari region of Thiruchirappalli district where the fallow period is long enough to permit cultivation of a variety with a duration of about 140 days. This is now being replaced by MCU.7 which is superior to P216F, both in yield and quality. It gives 32 per cent higher lint yield, has a staple length of 25 mm and spins 45 counts compared to 23 mm length and 36 counts of P216F. MCU. is a significant achievement in cotton breeding as it is the only cotton strain evolved through mutation breeding for commercial cultivation in the country. In the double crop rice fallows however a still shorter duration variety was needed and one of the Russian introductions, PRS.72, was found fit for

cultivation in wet lands of the old delta tract in Thanjavur district after the harvest of the second crop of paddy.

For meeting the demand for cottons of higher counts, 'Sujata' a *barbadense* variety spinning upto 90 counts is becoming popular in Coimbatore district.

With the development and release of improved strains from time to time, there has been a gradual and steady increase in the total production and quality of the cotton produced in Tamil Nadu. The extent of improvement achieved in cotton through the research work in progress in Tamil Nadu can be judged from the following data.

Strain	Year	Yield of seed cotton kg/ha	Ginning per cent	Staple length (mm)	Spinning (HSC)	Duration days
(a) Rainfed arboreum						
Karunganni Local	1900	300	28	20	16	210
Karunganni—1	1935	350	30	22	24	210
Karunganni—2	1948	370	31	22	28	200
Karunganni—6	1957	420	34	23	33	196
Karunganni—7	1964	470	36	24	36	195
Karunganni—8	1972	470	38	26	40	195
(b) Irrigated (<i>hirsutum</i>)						
Cambodia bulk	1906	850	32	21	24	200
Cambodia—2	1929	950	33	22	28	195
Madras Cambodia						
Uganda (MCU)	1943	1100	35	25	40	180
MCU—2	1954	1200	34	26	43	165
MCU—3	1959	1300	36	26	43	180
MCU—4	1967	1250	37	29	70	165
MCU—5	1968	1350	34	29	70	165
MCU—8	1972	1350	36	30	80	165

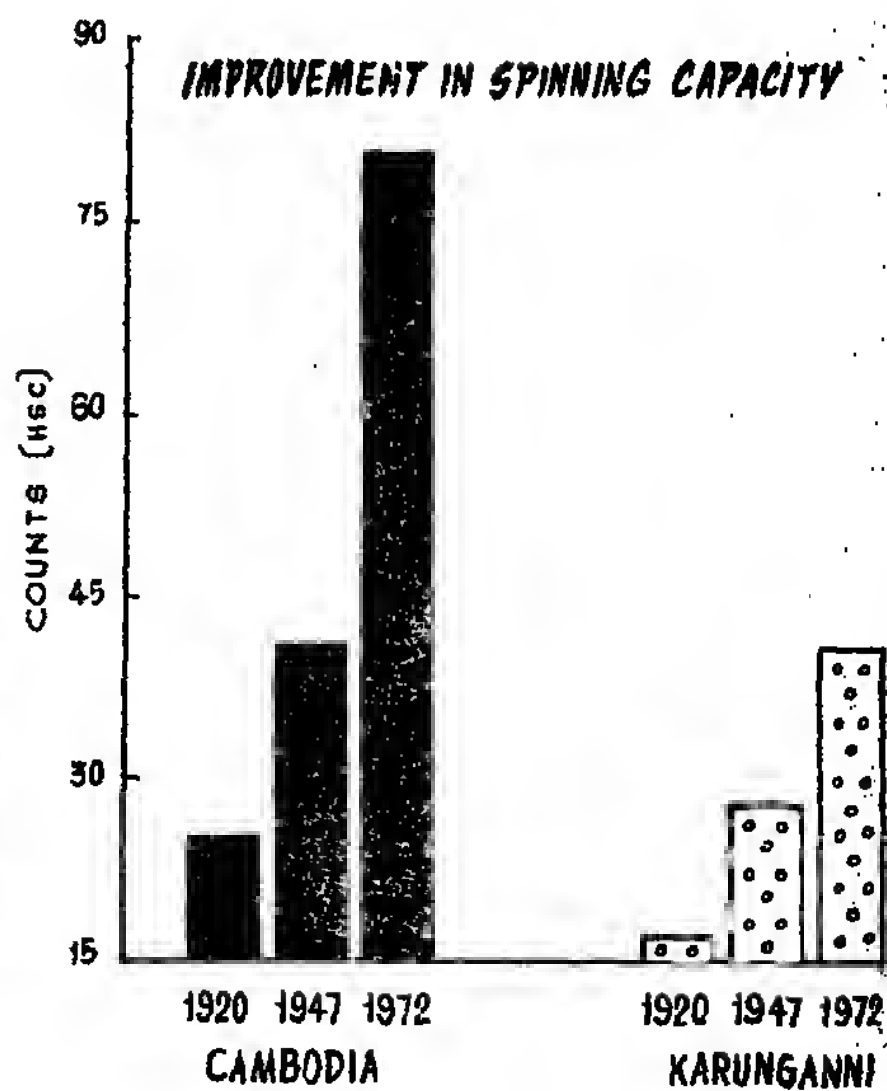
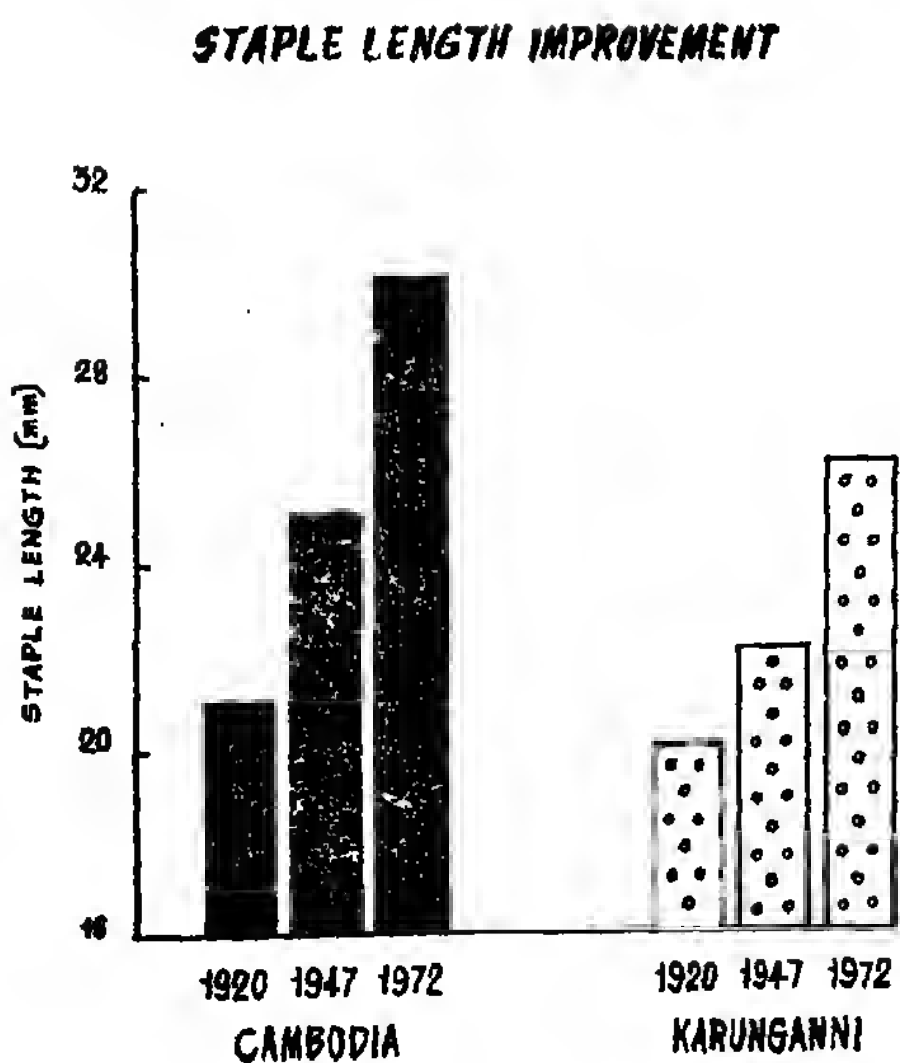
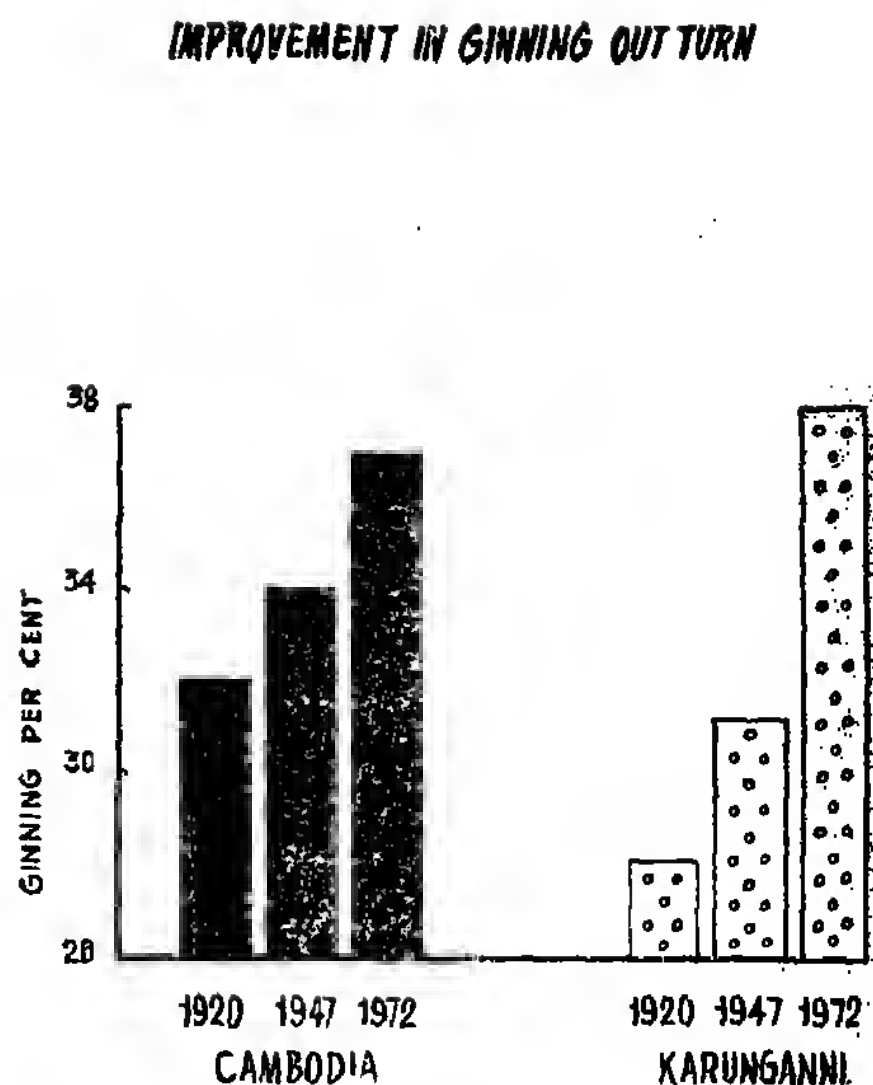
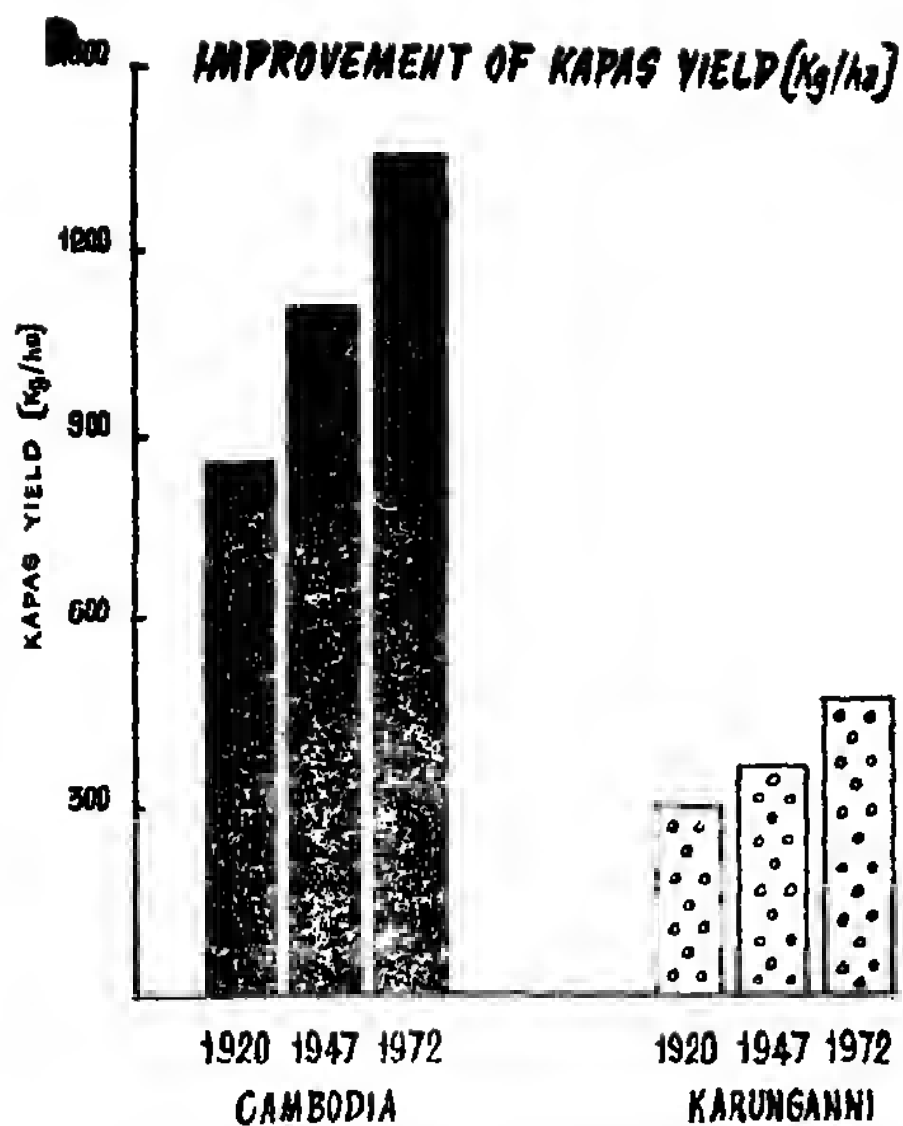
The progress achieved through the organised efforts of research scientists on cotton during the course of five decades has created a revolutionary impact on the economic prosperity of Tamil Nadu farmer as it had contributed much towards a greater stabilisation of its expanding textile industries. The inherent yield potential of the cotton varieties under cultivation has been toned up by hybridisation resulting in 53 to 60% increase in yield. Marked improvement has also been achieved in increasing the staple length from 20 mm to 26 mm in *arboreum* and from 21 mm to 30 mm in *hirsutum*.

Savings in Foreign Exchange

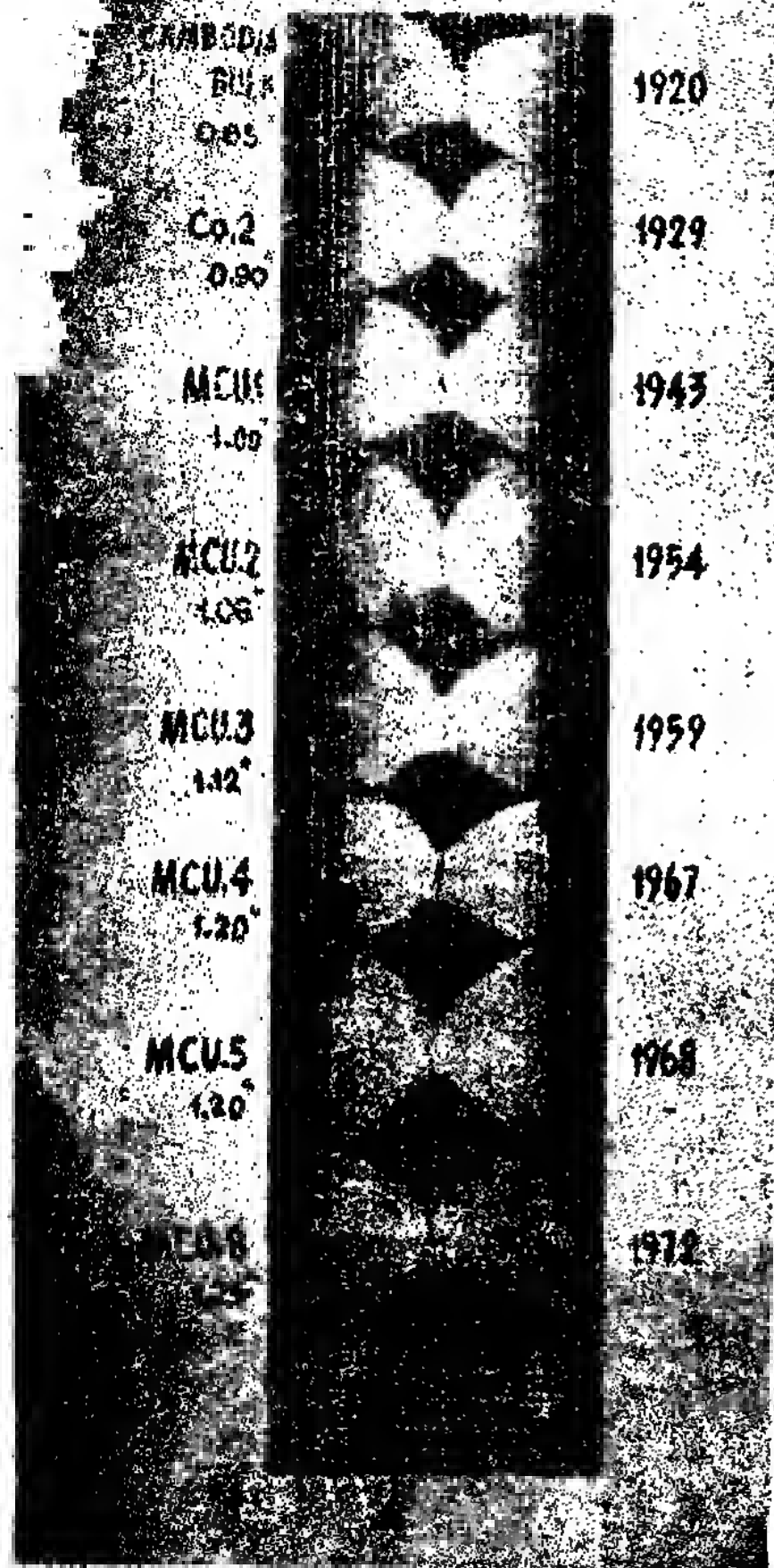
The most spectacular research achievement was appreciable foreign exchange savings through import reduction in cotton by improvement in spinning

capacity from 16 to 40 counts in the rainfed cotton and from 24 to 80 counts in the Cambodia Cotton. Another outstanding land mark is the development of widely adapted varieties like K.7 and K.8 of rainfed cotton suited for the entire Karunganni tract as well as that of the improved strains of MCU.4 and MCU.5 that offer scope for unification of the winter and summer Cambodia zones under one single strain for the irrigated cotton tracts of the state. The release of MCU.8 cotton strain for the summer tract is a great achievement as it is the only known *hirsutum* variety under commercial cultivation spinning 80s counts. Another successful approach that has yielded fruitful results of great economic significance is the development of the *hirsutum* variety Bharathi (MCU.6) for the replacement of rainfed cotton varieties of Karunganni and laxmi cotton. Strain Bharathi had given 74% higher yield of seed

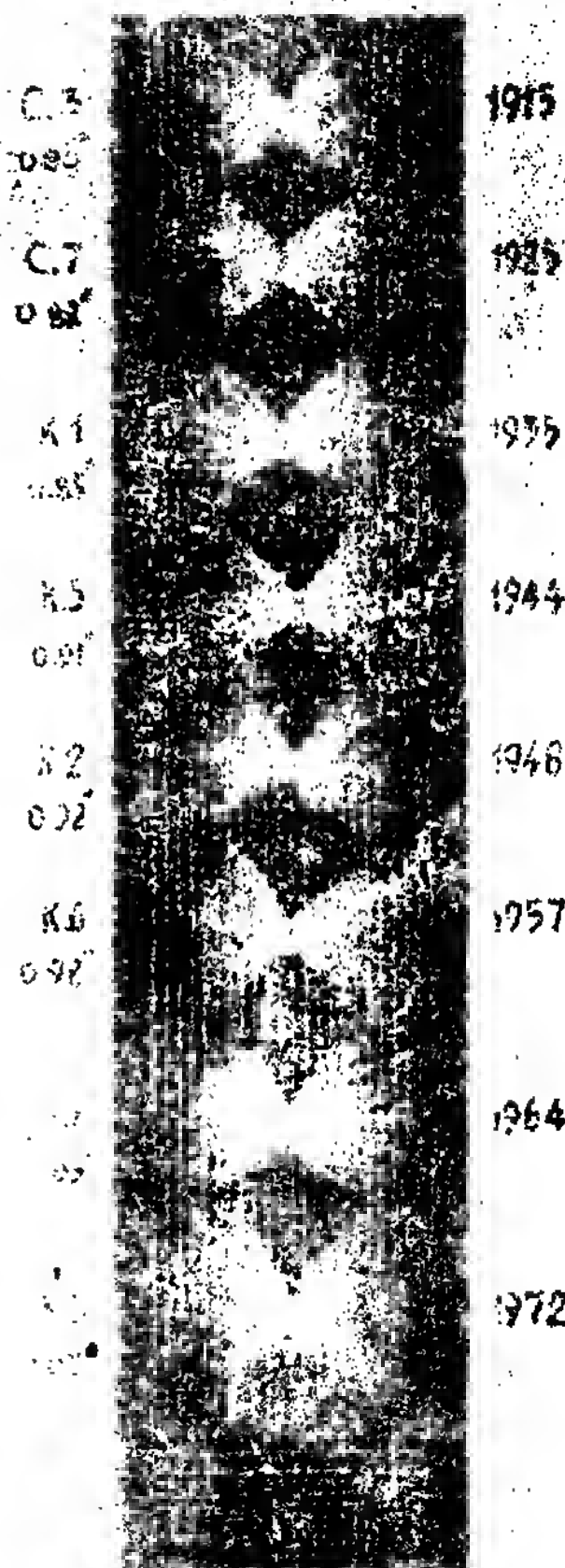
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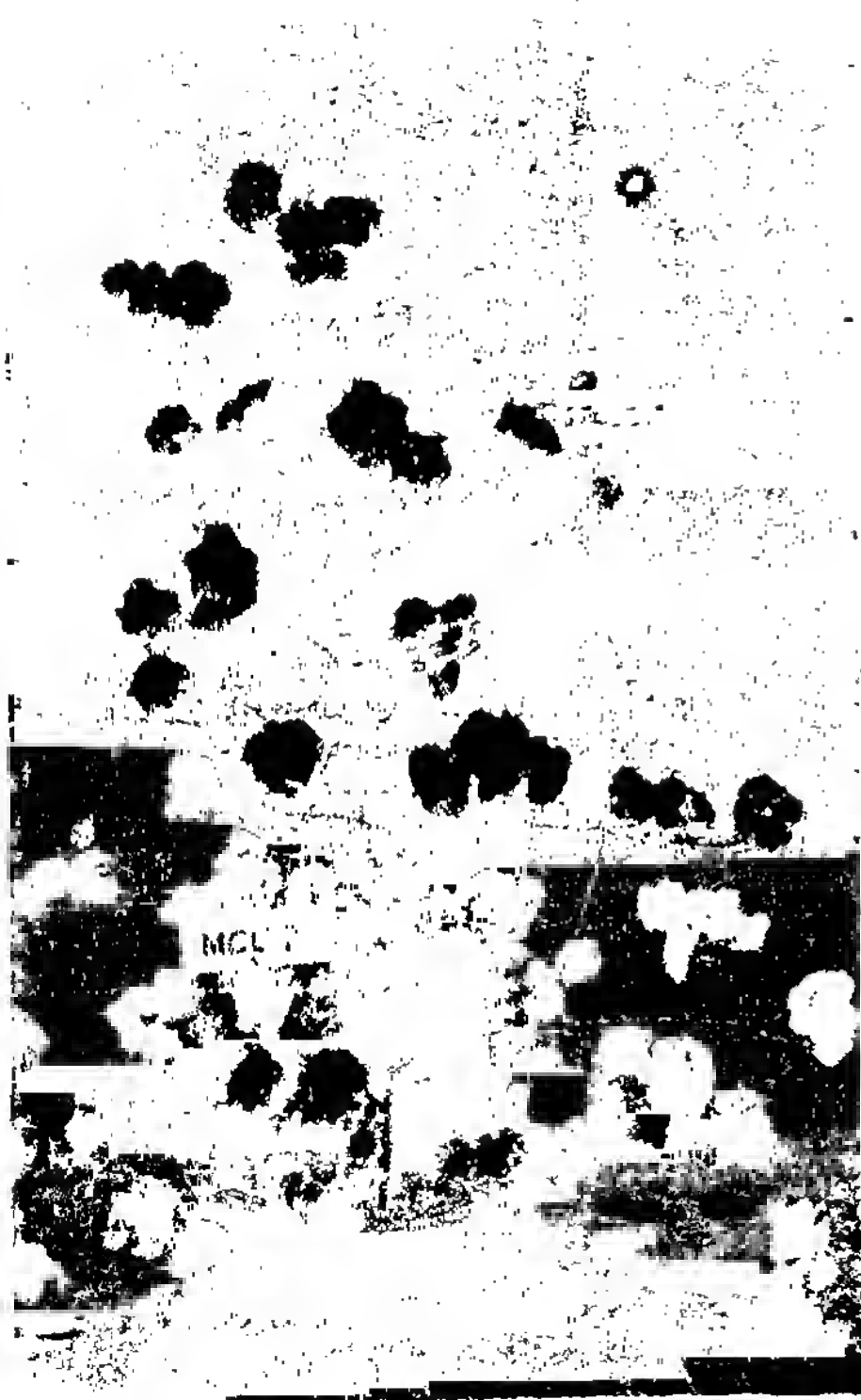


THE STAPLE IMPROVEMENT IN CAMBODIA COTTON



THE STAPLE IMPROVEMENT IN KAFONG ANNI COTTON





The Punjab University Vice-Chancellor appointed, some time ago, a committee to examine the causes of the falling numbers of undergraduate science students. The Committee was asked to suggest some appropriate measures to take in hand the possible problem of science teachers, who might have to pay for it with their hard-earned jobs.

The Committee looked into the case of two colleges mentioned above, and assessed the ratio of art and science students during the past four years. It concluded that there was a steady and downward trend in non-medical science subjects right up to the B. Sc. (Final) level. Its recommendations (summarised somewhere else in the article) are now before the Senate of the University.

Side by side, the Vice-Chancellor also constituted a Standing Committee of diffused view and reflection—it consisted of such representative elements as college managements, teacher unions and so forth. This Committee will make recommendations on the basis of these findings, and suggest required guidelines for competently handling the problem of probable teacher retrenchment.

The Committee which met on August 23, in the Syndicate Room, to discuss a proposal mooted by Principal Pritham Singh—the fall in science student numbers—heard the impressive arguments advanced by Principal G. C. Junaja; particularly, the case of B.A. Pt. I



Is Punjab the only university which has noticed it? The answer will have to be found from some of the figures included in All-India chart created by diligent editorial research on the data sent in by more than 40 universities and colleges upon the specific request of University News. The Editor will, of course, welcome your comments, if any, and feature them suitably in the coming issues of the magazine. In the meantime, please read the picture of the two colleges of Punjab—one in Chandigarh; another in Ludhiana—which were taken up as study models by the Punjab University to confirm the widespread speculation that there was a steady decline in preference for science subjects, especially in the non-Medical group—Editor

(April 1972) students. He was convinced—as were others after hearing him—that it was linked directly to fewer job opportunities in the country for engineering graduates. Besides, he emphasised that fewer students were taking Mathematics due to drastic changes in its syllabi: the basic cause of a large number of failures.

At this stage, Dr. R. P. Bambah intervened; he reported that the University had thought of this problem, and had instituted refresher courses to overcome it. He mentioned, too, that only 166 teachers had been actually sent by their colleges instead of the 262 originally invited. He was sure that, if all affiliated college teachers had participated in such courses, the difficulty would have been overcome. Comparing the percentage in the subject of Mathematics with that in others like Physics and Chemistry, he pointed out that there was not appreciable variation in the pass percentage, even though the syllabi of Maths had been revised.

Dr. P. N. Mehta sided with both: the real problem before them all was how to arrest the steep fall in the student number and find, at the same time, suitable slots for teachers, who might be thrown out of their jobs.

A good suggestion came from Dr. Bambah: introduction of the Tutorial System in Physics, Chemistry and Biology; it would result in absorption of the staff rendered surplus. Besides, the increased expendi-

The Declining Preference For Science: How far is the Punjab University Survey relevant?

ture incidental to its introduction could be met with a grant from the UGC.

The case for scaling down the workload—twenty periods a week instead of the present twenty-four of science degree teachers' was also advanced. The reason given for such a suggestion was to increase their lecture-preparing time. However, Mrs. H. M. Dhillon felt that the step might create the problem of accommodation.

The Committee ultimately decided to recommend these steps to the University Syndicate: (i) The Vice-Chancellor might emphasise to the Convenors of Boards of Studies and Heads of Science Departments the modernisation of all subject syllabi; (ii) Until engineer-employability increased actually, the affiliation of non-medical science subjects be restricted; (iii) the rate of failure should be checked in order to improve standards; and (iv) the Tutorial System be introduced in all science subjects for absorbing surplus teachers.

The other recommendation, which the Committee made, related to the workload: the idea was to permit them more time to refresh their own subject knowledge and to develop new and modern techniques of teaching it.

The Punjab phenomenon is not entirely irrelevant; and if it somehow does not conform to the all-India study, it is mainly because of industrialised and non-industrialised areas: other factors, such as the rate of

literacy and its extent, and living standards and the purchasing power, are no less important: education still is largely a commodity which can be purchased if the buyer's (or his guardian's) pocket permits!

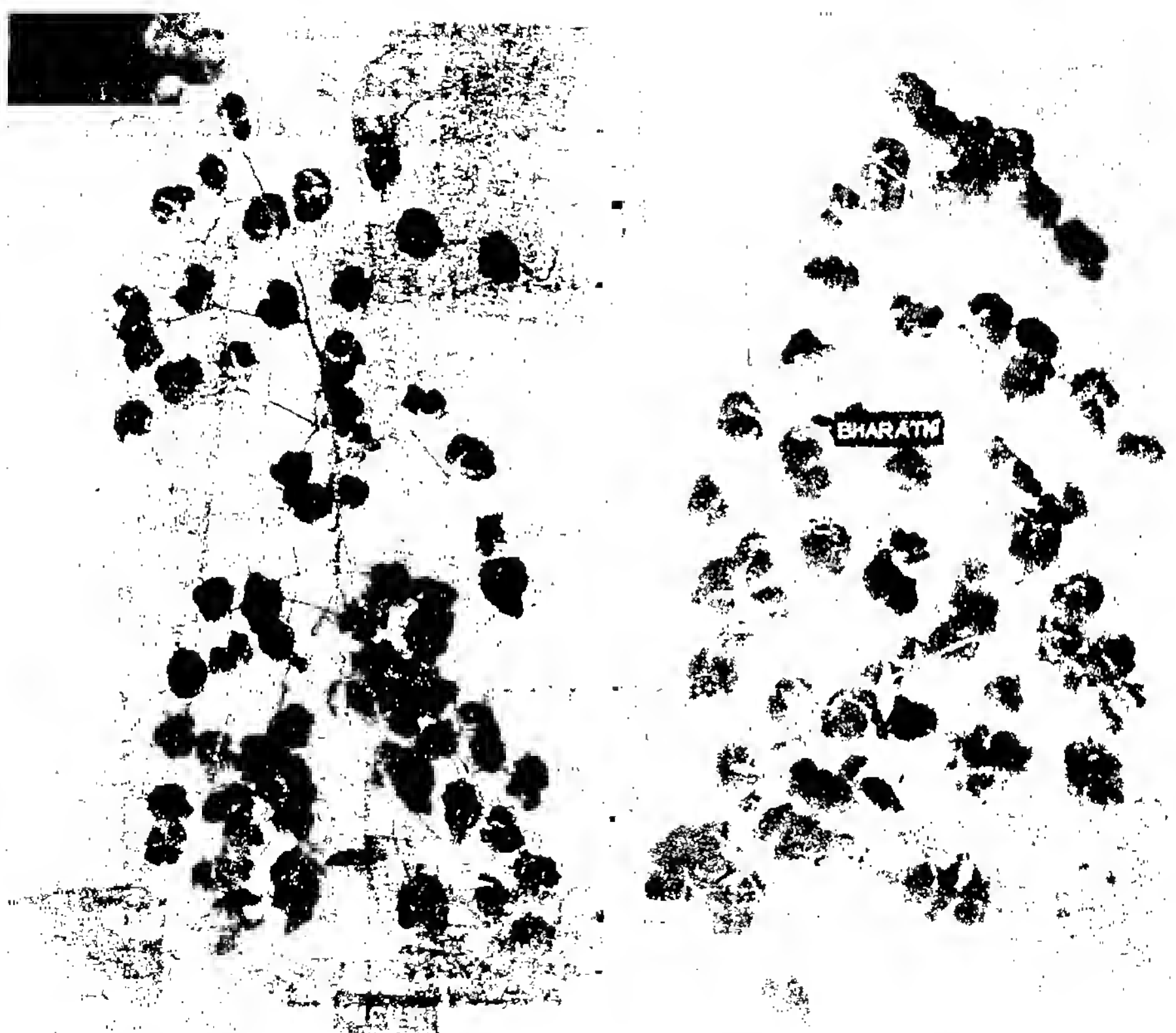
The picture is based on somewhat sketchy data. Its reliability, however, for the very limited purpose of a tentative consideration is beyond reproach.

Out of the total number who applied (58774 men; 37706 women) there were 41357 science students. Art courses attracted only 32621. The picture is composite: both graduate and postgraduate courses are included.

The consensus, if at all it may be called by that name, seems to be that the two or more or less evenly split; the preference for science subjects having some edge over the arts. But factors like deliberate and indeliberate omissions, nonreceipt of data, or sending of unverified data and other such factors detract from its total relevance and dependability.

But one thing is certain: while engineering unemployment may be a factor in areas, which are highly industrialised, say Calcutta and Punjab, preference is still for science courses, where there is any some likelihood of the establishment of industry. But that is more like economics, not a comparative study.

—Editor, University News



cotton and 80% higher lint yield over Laxmi and hence found fit for a cent per cent coverage in the entire area. Consequent on the availability of widely adapted, high-yielding cotton varieties of far superior

quality, it is now possible to have the entire area brought under outstanding strains. The following six improved strains are recommended for cultivation in Tamil Nadu at present.

S. No. (1)	Tract Growing Cotton (2)	Irrigated or rainfed (3)	Season (4)	Strain (5)	Normal area in hectares (in lakhs) (6)	Production possible (in lakhs of sales) (7)
1.	Coimbatore Tract (early shown)	Irrigated	August-February	MCU. 5	1.40	1.90
2.	Periakulam region	Rainfed	September-March	MCU. 5	0.36	0.17
3.	Karunganni tract (Southern districts)	Rainfed	October-May	K. 7 Barathi (MCU. 6)	0.99	1.17
4.	Avanashi-Trichy tract	Irrigated	October-March	MCU. 5	0.54	0.01
5.	Irrigated Crop of Madukkarai Tract	Irrigated	June-December	MCU. 5	0.05	0.001
6.	Masipattam (160 days) Cotton Irrigated (Southern districts)	Irrigated	February-July	MCU. 4	0.39	0.80
7.	Massipattam cotton (140 days) Manapparai area	Irrigated	February-July	P. 216 F	0.43	0.06
8.	Masipattam cotton 125 days Double crop Rice fallows	Irrigated	February-June	PRS. 72	0.01	0.007
					4.17	4.118

Suitable management techniques for growing these varieties have been developed for maximizing the potential of these strains. The advantages of closer spacing, optimum population, use of nitrogenous fertilizers and the need for large scale adoption of plant protection measures have become well known to most of the cotton growers of the State. Availability of good quality strains of high yield potential coupled with good management practices has resulted in an additional income to farmers of Tamil Nadu to the extent of Rs. 15 crores as against the expenditure of about four lakhs of rupees spent annually on cotton research in the State.

Research during the future years will be directed

towards evolving new types of cotton with better plant type which includes the short branching habit transfer of desirable attributes of the wild species to the varieties already under spread, exploitation of heterosis, infusing pests and disease resistance etc. The cropping pattern itself is likely to undergo changes: more area under irrigated crops of cotton in place of irrigated crops of cereals and millets. The per hectare yields will also be increased by the development of strains with built-in resistance to pests, pathogens and other adverse seasonal conditions. These steps are likely to bring about a greater coverage of the area under outstanding strains, released recently, and lead to greater stabilisation of the textile industry of Tamil Nadu.



CFTRI LIBRARY AT A GLANCE

By

V. Krishnaswamy Rao

Introduction

Scientific and industrial research under the Government of India is carried on mainly through the Council of Scientific and Industrial Research, set up in 1942 as an autonomous body, and administered by a Governing body with the Prime Minister as its President. The Council is almost entirely financed by the Union Government. The establishment of a chain of national laboratories under the Council ranks as one of the major achievements in India since independence.

The Central Food Technological Research Institute, one of the oldest of CSIR institutes owes its location in Mysore City to the generous donation of a building and site by the Maharaja of Mysore in 1949. It was inaugurated on 21 October 1950 by Shri C. Rajagopalachari, then Home Minister in the Government of India.

Function of CFTRI

The main functions of the CFTRI are to promote optimal utilization of all the food resources so as to attain quantitative and qualitative self-sufficiency in food, achieve better nutritional standards, and contribute to the economic growth of the country through the use of modern food technology. Regional experiment stations have also been established at Trichur, Nagpur, Bombay, Lucknow, Ludhiana, Hyderabad and Mangalore.

The FAO International Food Technology Training Centre (IFTTC) located at the Institute trains students from India and the Far East for the M.Sc. Degree in Food Technology of the Mysore University.

Short-term refresher courses for professional people, who are deputed by food processing industries and government organizations, are also held from time to time in specialized subjects.

Outline of Library

The library is located in the main building within easy reach of all the Disciplines and Sections. It is primarily intended for the use of the scientific and technical staff of the Institute. All readers have the privilege of direct access to the shelves in the reading

halls, and complete freedom to browse and consult whatever materials they need during specified hours.

Book Section

The library has now about 22,483 volumes including back volumes of periodicals. Books are classified according to Sixth Edition of Colon Classification. A depth classification schedule designed in collaboration with Documentation Research and Training Centre, Bangalore, is used for Food Technology books, the catalogue is prepared according to the Classified Catalogue Code of Dr. S. R. Ranganathan. With local variations, Browne charging and discharging method is in vogue. There is a separate Student Book Section exclusively to cater to the needs of the IFTTC students and post-graduate Home Science students of Mysore University. New books are added to the library on the recommendations of the Library Committee. The annual book fund of over Rs. 1.5 lakhs is divided in the appropriate ratio of 2:1 for purchase of periodicals and books respectively.

Reference Section

The reference section which includes Encyclopaedias, Year Books, Bibliographies, etc., has a collection of 726 volumes. Reference materials in this Section are for consultations only and are not normally issued. Active reference service and readers advisory service form the keynote of the library's reader service programme.

Periodical Section

The library receives about 590 selected periodicals and serials from all over the world. 106 of them are received gratis, 79 on exchange basis and the rest by subscription. The periodicals cover mainly the fields of food science and technology but some periodicals for general information and education are also subscribed to. The current copies of the periodicals are displayed on the respective racks, and the back numbers are kept inside the pigeon holes. The periodicals, as and when received, are registered in a Kardex and a list is displayed on the reading room table. An exhaustive list of periodicals received together with their location is also available in this section.

The back numbers of periodicals are bound and broadly classified. A Linedex is provided for easy location of journals.

Micro Documents

Standards, FAO publications, pamphlets, annual reports, patents and such other micro documents are available for the benefit of the readers. A patent inspection centre housed in the library provides official publications of the Indian Patent Office for consultation. These documents are arranged according to serial number. Work is in progress to classify and catalogue these documents.

Inter-Library Loan

An inter-library loan service is maintained with other local scientific libraries for the mutual benefit of readers of all these libraries. In case the original publication is not available in Mysore, then, as a rule a photocopy or a microfilm of the relevant reference is obtained from INSDO. Inter-library loans with libraries outside Mysore are very few.

A microfilm reader is available for the use of readers.

Important scientific and technical articles are translated to English from other foreign languages on receipt.

Documentation Service

The current periodicals and other publications are scanned for information retrieval. The articles on Food Technology are published in the Documentation List for Food Technology. The titles are classified by making use of depth classification schedule specially designed for this purpose. A select list of articles on subjects other than food technology is published in the Library Bulletin. These are monthly publications and the entries in them are filed in a catalogue cabinet for storage.

The library also takes up, on request, compilation of bibliographies and reading lists which are com-

plied from the above catalogue, as well as abstracting journals and other publications.

The scientific information unit publishes 'Food Technology Abstracts' which is a monthly list containing abstracts of important and relevant papers that have appeared in the journals received in the library.

Hours of Opening

The library is kept open on every day of the week from 8.30 a.m. to 8.00 p.m. on all days except Sundays and Holidays. On Sundays and ordinary holidays it remains open from 9.00 a.m. to 1.00 p.m. Only on national holidays and a few very important festival days does it remain completely closed with prior intimation to readers.

The library staff numbers 13, of whom 4 are qualified, 5 are semi-qualified, and the rest are administrative or unskilled workers.

The library has attracted readers from post-graduate departments of Mysore University at Manasagangothri, Government Medical College, Mysore, Central Sericultural Research Institute and the Defence Food Research Laboratory. Among other University students who avail the library facilities mention may be made of Sri Venkateswara University, Tirupati, Osmania University, Hyderabad, Sri Avinashalingam Home Science College, Coimbatore, Agricultural University, Ludhiana, and the University Department of Chemical Technology, Bombay.

The library would not have come up to its present level of efficiency and comprehensiveness but for the able guidance and work put in by Sri S. V. Sangameswaran, Librarian, and Shri K. M. Dastur Chairman of the Library Committee, and the keen interest shown by Dr. B. L. Amla, Chairman, Industrial Research Consultancy and Extension, and Dr. H.A.B. Parpia, Director, CFTRI, Mysore.

Shared Publication Scheme Brings More Books To Asian Children

By Francis Martin

The first word a child utters is a thing of wonder for his parents, a sign of the passage from infancy to childhood, from dumb dependence to communication. The first book a child looks at is also a thing of magic, a window that has opened on the outside world.

That first book can also mark the beginning of the lifelong pleasure of reading, and a lifelong apprenticeship to the ideas, discoveries and learning accumulated through the ages. Yet, in many parts of the world, children's books are scarce, dull and inadequate to awaken a child's imagination and spur him on to further reading.

What can be done about this? How can better books be produced and made more generally available?

Eight Asian countries have come up with one answer—a very simple answer, at that. They have decided to pool the best of their children's literature and to make these books available in the languages of the region.

The idea of a Common Reading Materials Project was first broached in 1966 at a meeting sponsored by the Southeast Asia Ministers of Education Secretariat (SEAMES). Shelved because of financial problems, the project was finally adopted in 1970 by the Tokyo Book Development Centre, an organization set up by the Japanese National Commission for Unesco & the Japan publishers' Association, with support from professionals all over Asia, to stimulate and improve publishing throughout the area.

Pooling the pictures

The key to the operation is the fact that the most costly part of printing an attractive book for children under 12 is the illustrations. If the same illustrations and layouts could be used for different language versions, the cost of each edition would be greatly reduced—all the more so if all versions were printed centrally.

The first step in this direction was to decide what type of books should be selected for cooperative publishing. Textbooks were automatically excluded since they have to meet specific national needs. But priority, the Asian experts thought, should be given to picture books likely to promote mutual understanding between children in the different countries of the area and to provide supplementary reading matter, especially in science—a field where popular books for children are sadly lacking in the region.

The first two books to go into production under the cooperative venture were chosen last July at the second expert meeting held at the Tokyo Centre. *Taro and his Friends*, written by Keiko Murayama and illustrated by Seiichi Horiuchi, and *About Blood*, written and illustrated by Seiichi Horiuchi, are two Japanese books already popular in their own country.

Multiple-language editions

The meeting also had to decide on the number of language editions—a tricky problem since many of the countries in the Asian area have two or more major languages: India, for example, has 15. The experts agreed that the two experimental books should be published in one language per country, with the possibility of re-editing bilingual editions in countries like Afghanistan (where both Pashto and Dari are spoken).

For a start, printings will be limited to from 500 to 1,000 copies for each language edition, though bigger runs may be possible later on. In fact, publishers see in the Common Reading Materials Project a means of greatly expanding their potential market. This is especially true in countries which share national languages: Tamil, for example, is common to Ceylon, India, Malaysia and Singapore, and publishing costs can be reduced to a minimum when such countries can agree on the production of a common translation, a common type face and common layout.

Japan, which in 1969 published 2,713 children's titles 740 of which were translations was a natural choice for the temporary headquarters of the project. In fact, the Tokyo Book Development Centre not only undertook to obtain the necessary copyright clearances for the books, but generously offered to cover the translation, printing and binding costs of all editions.

And so last September the selected books translated into English and French, were sent out from Japan to the special national agencies set up in each of the seven other participating countries.

At the same time, dummies of the books, complete with illustrations, were supplied showing the place where the type should go in relation to the pictures.

By January, the texts had been translated, the type faces chosen and the edited copy returned to the Tokyo Centre for printing.

A sense of urgency surrounded the work since all participants were determined that the first volumes should be made available to Asian children during International Book Year. It looks as if they will be able to meet their deadline.

The first mock-ups of the books have already been received in Tokyo, with the texts and illustrations matched, ready to go before the cameras, so that plates can be made from the negatives and the books produced by offset printing processes. Indeed, the sponsors of the project hope to have at least some of the editions ready when experts from all over Asia gather at Tokyo in July for a publishers' conference convened by Japan as one of its contributions to International Book Year. It is also hoped to have all the editions on display at Unesco's General Conference in Paris next October as one of the Book Year exhibits.

But the project will not end in 1972. It will continue through the years, as many of the initiatives started during the International Book Year. The goal is to provide good children's books for the countries of the area.

BOOK REVIEW

TRAINING OF ADULT EDUCATORS by S. C. Dutta and H. J. Fischer, Shakuntala Publishing House, Bombay, PP. 163, Price Rs. 5/.

This book presents, in a nutshell, the very diverse views of intellectuals from several countries on adult education. Condensed to the point of brevity, the book speaks of a number of innovations in the virgin field of this very desirable human activity.

Of the views expressed, the one really outstanding which has appealed to this reviewer relates to the fundamental research pertaining to primary adult education. Of the others, a mention may be made also of the interesting aspects of organisation portrayed by Mr. Sachdeva, Editor, "Adult Education."

On the whole, the book is likely to prove very, very readable. But, then, readability is only a state of mind.

—W.D.M.

“QUOTE

UNQUOTE”

- A letter to the editor, in *Education* 24 Dec. 1971 : “A working party of the National Council for Educational Technology dealing with standards and specifications has started to evolve clearly defined ideas about the needs in all fields of education.”

The members of the party must be from the manufacturing industry !

- Question at a Seminar : “Need we have the obsolescence factor which forces the education service to buy two items of equipment when one should do ?”

Yes—one for breaking during the trial ; the other through the error !

- A book entitled, “No. 3 Audio-Visual Media and the Disadvantaged child By Ellew C. Mee, MBE—A report on a feasibility study on the contribution which audio visual materials might make to the education of young culturally-deprived children.”

Particularly, children suffering from the modern disease of knowledge-explosion !

- Another book—Colleges of Education Learning Programmes—A Proposal—A report on a feasibility study into the needs of colleges of education for the production of learning materials incorporating new teaching and learning techniques.”

For theory western on television ; for practice, street fighting !

- A comment—“ . . . Surely the printed word is a useful and necessary tool for everyone...”

Except the student !

- Another comment : “If an engineer had one-third of his buildings collapse, or a doctor had one-third of patients perpetually sick, these practitioners would soon be out of business. Yet in the field of education, a one-third percentage of failure seems to be accepted as inevitable.”

If you are talking of India, it is considered even success !

- A candid question : “Is it important that every student study the works of Shakespeare and Thomas Wolfe ?

Especially when better known thrillers like Perry Mason are available !

- A concerned educational reformer ; “I feel it is essential that we offer more alternative paths to the student.”

He merely wants just one alternative path—to go out !

—W. D. Miranshah

CLASSIFIED ADS

SAURASHTRA UNIVERSITY

Applications in the prescribed form are invited for the posts of (1) **DEPUTY CONTROLLER OF EXAMINATIONS** (One Post) Pay Rs. 640-35-760-40-900-50-1200.

(2) **ACCOUNTANT** : (One Post) Pay Rs. 510-20-610-30-760-EB-40-880-10-980.

(3) **ASSISTANT CONTROLLER OF EXAMINATIONS** : (Two posts) Pay Rs. 510-20-610-30-760-EB-40-880.

(4) **LECTURER** . (Senior Scale) in **HOME SCIENCE** Pay Rs. 400-30-640-40-800.

(5) **PROFESSOR** : (Part-time) in **FOOD NUTRITION AND NURSING** : Pay Rs. 150/- fixed.

(6) **LECTURER** (Part-time) in **HOME SCIENCE AND EDUCATION** : Pay Rs. 150/- fixed.

All posts are permanent and carry benefits of contributory Provident Fund as per University Rules. Posts at Sr. 1 to 3 are for University Office, and Posts at Sr. No. 4, 5 & 6 are for University conducted colleges at Bhavnagar. Dearness allowance and House Rent allowance will be paid as per University rules. Higher initial salary in the scale may be considered in case of exceptionally qualified and experienced persons. Qualifications and experience relaxable in special cases. Candidates in employment must submit their application through their present employer. Candidates if not knowing Gujarati will be required to pick up Gujarati within a reasonable period.

Age for posts No. 1 and 3 not below 35 years and not more than 45 years on 1-1-1973; and for post No. 2 not exceeding 45 years and not exceeding 55 years for other posts.

Application forms and details of qualifications required will be available from the Registrar, Saurashtra University, Rajkot on sending a self addressed envelope of the size 23 x 11 cms. with postage stamps worth 30+5 paise for posts No. 1, 2 & 3 and 45+5 paise for other posts.

Application (one copy in case of posts No. 1, 2 & 3 and four copies in case of other posts) accompanied by Indian Postal Order for Re. 1/- in case of posts No. 1, 2 & 3 and Rs. 2-40 in case of other posts) crossed in favour of Registrar Saurashtra University, Rajkot, should reach this office on or before 23rd October, 1972.

21-9-1972

Registrar

THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA

NOTIFICATION No. 15

Applications in the prescribed forms are invited on or before 31st October, 1972, for the following Temporary posts under the Programme of Special Assistance by the University Grants Commission to the Department of Bio-Chemistry, Faculty of Science. Prescribed application forms will be available from the undersigned on prepayment of Re. 1/- by means of a crossed postal order for each post. All the posts are Temporary upto 31-3-1977.

*1. **Professor of Nutrition** :—Scale Rs. 1100-50-1300-60-1600

Qualifications Essential : A doctorate degree in Nutrition or allied subjects with experience of seven years teaching and research with a multi disciplinary approach to the problems of Nutrition and brain function as evidenced by published work of a high standard. **Desirable** : Experience of teaching post-graduate students and guiding research.

*2. **Reader in Nutrition** :—Scale Rs. 700-50-1250

Qualifications Essential : An M. D. in Pathology, Paediatrics or Medicine or Ph. D. in Bio-Chemistry or Nutrition with research experience in clinical nutrition or nutritional Bio-Chemistry and five years teaching experience.

*3. **Lecturers/Research Associates in Nutrition** (Two posts) :—Scale : Rs. 400-40-800-50-950

Qualifications Essential : A doctorate degree in Physiology, Behavioural Science, Biological Science, Nutrition or Bio-Chemistry with three years teaching/research experience in the field of Nutritional Bio-Chemistry, Brain Bio-Chemistry, Behaviour or histology and histochemistry.

4. **Senior Research Fellowship** (Two) Rs. 500/- p.m. fixed without allowances : **Essential** : Those who have got Ph. D. or submitted the thesis for Ph. D. in the field of Nutrition, Biochemistry, Neurochemistry, Biological or behavioural Sciences can apply.

5. **Junior Research Fellowship** (Three) : Rs. 300/- p.m. fixed without allowances. **Essential** : Those who have obtained first class or high second class in M. Sc. Bio-Chemistry, Physiology, Nutrition, Behavioural Sciences or Biological Sciences can apply. They can register for Ph. D. degree.

The graded posts carry D. A. and H. R. A. as per University Rules.

The application form should be accompanied by a Crossed Postal Order of Rs. 7-50 for post Nos. 1 to 3 and Rs. 3-50 for post No. 4 and Rs. 1-50 for post No. 5 should reach the Registrar on or before 31st October, 1972.

Applicants, when called for interview will have to come at their own expense.

*These posts are advertised subject to institution by the Senate.

Registrar

BANARAS HINDU UNIVERSITY (Advertisement No. 26/1972-73)

APPLICATIONS are invited for the undermentioned posts. The benefit of Provident Fund/Pension, Dearness Allowance, House Rent Allowance and City Compensatory Allowance are admissible according to the University Rules. The retirement age of the University employees is 60 years. The appointment will be made on two years probation on all permanent posts. Higher starting salary within the grade is admissible to specially qualified and experienced candidate.

The prescribed form for application will be sent free of cost by the Dy. Registrar (Academic), Selection Committee Section Banaras Hindu University, Varanasi 221005 along with the leaflet of information on receipt of a self-addressed envelope (9" x 4"). Applications for each post be sent separately with application fee of Rs. 7-50 remitted by Bank Draft/Crossed I.P.O. in favour of the Registrar, Banaras Hindu University. Money Order or Cheque will not be accepted. Candidates called for interview will be paid Second Class Railway fare both-ways by the shortest route. No other expenses will be paid. The last date for the receipt of application is 12th October, 1972.

Note : Those who have applied for these posts in response to our recent advertisement need not apply again.

INSTITUTE OF TECHNOLOGY

1. **PROFESSOR OF PHYSICAL METALLURGY** (One) (Dept. of Met. Engineering) (The post is temporary but likely to be made permanent)

Grade : Rs. 1100-50-1300-60-1600

Qualifications Essential : (1) A first or second class Master's Degree in Metallurgy/Metallurgical Engineering. (2) Specialisation in one or more of the following areas of research :-

X-Ray/Electron/Fields-Ion Metallography ; Thermal/Mechanical/Thermo Mechanical Treatment ; Phase Diagrams/Transformations/Stability ; Structure and Structural Imperfections ; Development of New Materials/Techniques/Theories. (3) A Doctorate Degree based on work in some area of Physical Metallurgy. (4) About 10 years experience of teaching and/or research in the field of Physical Metallurgy in

one or more of the renowned Metallurgical Institutions in India and/or abroad. Desirable (1) Research publications in standard Journals. (2) Recognitions/Honours at National/International levels and Membership of Scientific/Engineering Societies/Institutions.

Note : The essential qualifications may be relaxed for otherwise well-qualified and experienced candidates.

2. READER IN PHYSICAL METALLURGY (Two) (Dept. of Met. Engineering) (The post is temporary but likely to be made permanent)

Grade : Rs. 700-50-1250.

Qualifications Essential : (1) A first or second class Master's Degree in Metallurgy/Metallurgical Engineering. (2) Specialisation in one or more of the areas of research as given under qualification No. 2 for the post of Professor of Physical Metallurgy. (3) A Doctorate Degree based on work in some area of Physical Metallurgy. (4) About 5 years experience of teaching and/or research in the field of Physical Metallurgy in one more of the renowned Metallurgical Institutions in India and/or abroad.

Note : The essential qualifications may be relaxed for otherwise well-qualified and experienced candidates.

3. READER IN ELECTRICAL ENGINEERING (Dept. of Electrical Engineering)

Grade : Rs. 700-50-1250

Qualifications Essential : (1) A first or second class Master's Degree in Electrical Engineering or an equivalent qualification in the subject with specialisation in Computer Technology. (2) A Doctorate Degree and/or published work of a high merit in reputed journals. (3) About 5 years experience in Teaching/Research/Industry. (4) Experience in Maintaining a Digital Computer installation. **Desirable :** (1) Research publications in standard journals. (2) Membership of Professional bodies/Learned Societies. (2) Evidence of original work in Design/Development. (4) Experience in Developing software for Computers.

BANGALORE UNIVERSITY

No. EST/CCB/Misc. 171-A/72

Bangalore-1.

18th Sept. 1972

Notification

APPLICATIONS are invited from qualified candidates for the following posts in the Bangalore University :

S. No.	Designation of the post	No. of post	Scale of pay
1.	Professor of Geology	one	Rs. 1100-50-1300-60-1600

2.	Librarian	one	Rs. 1100-50-1300-60-1600
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Qualifications for the post of Professor of Geology

Essential :

(a) A First or Second Class Master's Degree in the subject/branch concerned ;

(b) Five years experience of teaching degree and/or Post graduate classes ;

(c) Capacity to carry out independent research work and to guide students for research degree ;

(d) Publication of work of a high standard.

Desirable :

(a) A Doctorate degree

(b) Knowledge of Kannada

Candidates selected for appointment in the University will be on probation usually for a period of one year. Probationary period may be extended if the University so desires.

Qualifications for the post of Librarian :

(a) A First or Second Class Post-graduate degree ;

(b) A First or Second Class Master's degree or doctorate degree in Library Science and 8 to 10 years experience in a Library of a University or a research Institution of status of a National Laboratories.

(c) Preference will be given to candidate having research work at their credit and knowledge of modern European Languages and important Indian Languages.

Persons selected for appointment will be placed on probation for a period of two years.

The prescribed application forms, in 6 sets, may be obtained from the Registrar, Bangalore University, Post Box No. 5017, Bangalore-1, on or before 7-10-1972 on payment of Rs. 15/- (Rupees fifteen) only. The amount may be credited to Account Branch of Bangalore University or sent by M. O. or by Crossed Postal Order payable to the Registrar, Bangalore University, Bangalore. The requisition for the application forms must be accompanied by a self-addressed envelope of 5" x 11" duly stamped with 0.85 paise postal stamps plus the refugee relief stamp.

Six copies of the applications giving all the required particulars with copies of at least 2 testimonials (one of which should be from the Head of the Institution, if any, where the applicant is now serving or served last) attached to the applications, should be sent so as to reach the Registrar, Bangalore University, Post Box No. 5017, Bangalore-1, on or before 20-10-1972. Copies of publications, if any, which will not be returned may be enclosed to their application forms.

Those who are in employment, should send their applications through their present employer, failing which their applications will be rejected.

Canvassing directly or indirectly would disqualify the candidates.

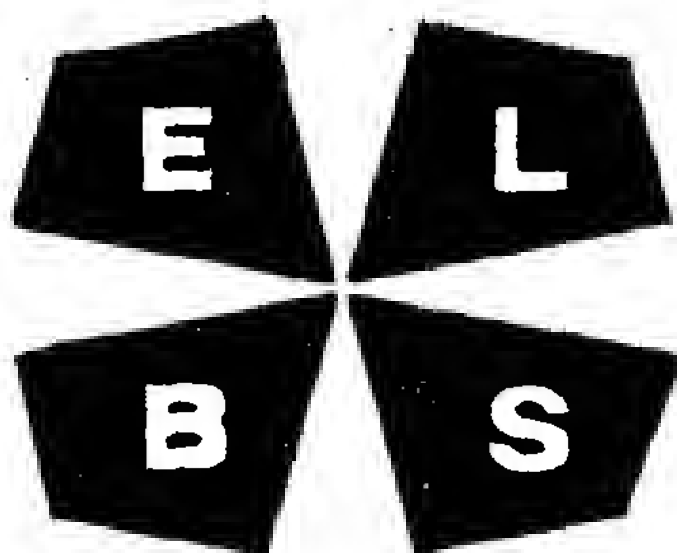
The selected candidates will be required to execute a contract of service as required under Section 48 of the Bangalore University Act, 1964. The appointment is usually tenable for a period of five years in the first instance, but is renewable at the discretion of the University.

[Those who had already applied for the posts of Professor of Geology in response to the Notification No. EST/CCB/Misc. 32/71 dated 14-5-71 need not apply again, if they satisfy qualifications prescribed in the present notification]

No T.D/D.A. is admissible for attending the interview.

(L. Surya Prasad)
Registrar i/c.

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The following titles have just been published in the ELBS edition. They are all prescribed or recommended at the college and university level in the standard edition :

NEW TITLES

- BRIDGER G & de SOISSONS M**
Famine in Retreat
Dent Rs. 15.00 (£0.75)
- BURBRIDGE J L**
The Principles of Production Control
Macdonald & Evans Rs. 24.00 (£1.20)
- CHAPMAN R F**
The Insects—Structure and Function
E U P Rs. 33.00 (£1.65)
- De GRUCHY**
Clinical Haematology in Medical Practice
Blackwell Rs. 30.00 (£1.50)
- GRAY C H**
Clinical Chemical Pathology
Arnold Rs. 16.00 (£0.80)
- HANSON J L**
The Structure of Modern Commerce
Macdonald & Evans Rs. 6.00 (£1.30)
- JOLLEY E H**
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Pitman Rs. 25.00 (£1.25)
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Bailliere Rs. 36.00 (£1.80)
- KLEMPENER O**
Electronic Physics
Butterworth Rs. 38.00 (£1.90)
- LATHAM J L**
Elementary Reaction Kinetics
Butterworth Rs. 6.00 (£0.30)
- MARSHALL A J & WILLIAMS W D**
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Longman Rs. 8.00 (£0.40)

SHEPHERD J & MORTON A H

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Pitman Rs. 25.00 (£1.25)
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Macdonald & Evans Rs. 10.00 (£0.50)
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Economics—The Science of Prices and Incomes
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If you have any difficulty in obtaining these titles, please write to the Books Officer, The British Council C-25, South Extension Part II, New Delhi-49, quoting the reference UNOCT. Copies of the Complete Subject Check List may be obtained, free of charge, from this address or from any of the British Council Libraries in India.

New Textbooks from the USSR available in India

Learning Russian

1. RUSSIAN FOR EVERYBODY : Textbook in six volumes (Details of each volume given below) pp. 210, Rs. 14.65 (for the set of six volumes) (Progress Publishers, Moscow).

The textbook is one of a series of aids to Russian studies, which also included a recorded supplement, a book of grammar and lexical exercises, an oral speech manual, a reader and a vocabulary. It is intended for adult beginners studying Russian with a teacher and is designed for one-year course involving 2-3 hours of Russian a week.

Its main purpose is to enable the student to converse on everyday and cultural subjects, to read moderately simple texts with a dictionary and to continue studying Russian independently afterwards.

The book is based on the Programme of Russian for Foreigners compiled by the Scientific and Methodological Centre of the Russian language.

The vocabulary comprises 1000 words, 200 of which are international words.

The book consists of 40 main lessons and 8 grammar revision lessons. It contains no grammatical explanations in the student's native language.

Grammar is presented by means of patterns-model sentences. Colloquial phrases are introduced as lexical units and are not analysed grammatically. Every lesson consists of two parts, one grammatical and the other lexical. The texts will acquaint the student with cultural and day-to-day aspects of Soviet life and Russian traditions and customs.

2. RUSSIAN FOR EVERYBODY (Vocabulary), pp. 270

This vocabulary includes all the words and idiomatic expressions occurring in the set of aids to Russian studies entitled Russian for Everybody, approximately 3000 in all.

The words are listed in their initial form : nouns in the nominative case, verbs, in the infinitive etc. Each entry is followed by the necessary grammatical labels.

Nouns are not always marked for gender but only when the determination of gender presents difficulty. Some case-forms and the form of the plural are given when there are peculiarities in their formation, such as shifting of the stress in declension, unstable vowels and other irregularities.

Possessive and demonstrative pronouns, adjectives and ordinal numerals are followed by their gender and plural endings. Verbs are marked for aspect and in addition each verb is generally followed by the second verb of the aspect pair.

The vocabulary also includes all geographical names and abbreviations used in the books making up the series Russian for Everybody.

3. RUSSIAN FOR EVERYBODY (Reader), pp. 175

The main purpose of the Reader is to provide the students with additional reading materials so that he can expand his vocabulary to enable him to read less drastically adapted Russian texts in future. The Reader should be used after the first ten lessons of the Textbook have been studied.

The texts are followed by exercises aimed mainly at checking the student's understanding of the characters, the message of the story, etc.

The Reader includes short stories by the Soviet writers. The most radically adapted texts are those included in Section I; the vocabulary and grammatical structures have been brought into line with corresponding lessons in the textbooks.

The Reader is designed for work in class. The teacher's guidance and supervision are necessary, particularly for the exercises intended to test the students' comprehension, such as listing the main points of the story, description of the characters, etc. However, it can also be used by persons studying Russian of their own.

4. RUSSIAN FOR EVERYBODY (Exercises), pp. 207

This book of exercises is one of a series of aids to Russian studies entitled RUSSIAN FOR EVERYBODY and designed for foreigners learning Russian under a teacher. It is an integral part of the Textbook—the central book of the series—and aims at activating the grammar and vocabulary dealt with in the latter and presented here in a series of graduated exercises.

The book includes both language and speech exercises, the former promoting automatic reproduction of the various grammar inflexions and the latter providing practice in the use in dialogical and monological speech—of the forms and constructions studied previously.

Most exercises contain model which may be used as a key. Such models enable the student to develop automatic use of material which was hitherto new to him and help him to avoid making mistakes.

Since the book is intended for work under a teacher, the assignments do not specify whether a particular exercise is to be done orally or in writing, this being left to the discretion of the teacher, whose advice will be sought in a number of cases, such as explanation of word-order and demonstration of intonation.

5. RUSSIAN FOR EVERYBODY (Let's Talk), pp. 185

This oral speech book is one of a series of aids to Russian studies, entitled Russian for Everybody and is designed for work under the guidance of a teacher. It is closely correlated with the Textbook,—the main part of the series—since it covers the same range of grammar and vocabulary and its contents are introduced in the same order.

The meanings of most of the new words which do not occur in the textbook are explained by pictures (especially in the first lesson and in each lesson there are model sentences printed in a box, which incorporate points of grammar dealt with in the lesson. The lessons in this book correspond to those in Textbook.

The exercises include drills intended to promote automatic speech habits as well as exercises requiring the student to use actively the material he has gleaned from the lessons.

The compilers have taken great care in leading the student to use the models given in various exercises, thus developing both monological and dialogical speech.

The compilers have included in the book simple crossword puzzles and games in the belief that this kind of light relief will facilitate assimilation of grammar and vocabulary.

6. RUSSIAN FOR EVERYBODY (Recorded Supplement), pp. 190 (Price for the set of ten records Rs. 62 in addition to the price of the set of six volumes Rs. 14.65).

This course is one of a series of aids to Russian studies entitled *Russian for Everybody*. A recording of texts and dialogues from the Textbook (which is the central part of the series), gives the student practice in the use of certain constructions common to colloquial Russian (and expressing agreement, refusal, regret, gratitude, etc.) and promotes correct pronunciation habits.

The course consists of two parts.

The first part contains 14 lessons and acquaints the students with Russian phonetics, the principal types of intonation constructions and their main uses in speech.

As a rule, the lessons of this part include three aspects : work on sounds, words, and intonation. Much attention is given to the rhythm of the Russian word.

Then follow the 40 lessons of the main part of the course, corresponding to the relevant lessons in the Textbook. Each of these lessons contains four elements.

1. Text from the textbook.
2. Dialogues from the textbook.
3. Exercises in intonation (Lessons 1-20).
4. Exercises activating constructions common to colloquial Russian.

The first lessons are recorded at a slow speed. However, the speed gradually increases till it corresponds to the normal speed of natural colloquial Russian.

The course may be used for work under a teacher, but it may also be used for independent extra-class work since it does not introduce any new lexical or grammatical material and aims merely to provide an aid to assimilation of the contents of the textbook.

It is hoped that this course will prove useful for those who wish to improve their pronunciation and fluency.

The following Soviet textbooks have been evaluated and have been approved by the Indo-Soviet Textbook Board in the last several months for use as textbook by Indian students. Their translation into Indian languages is recommended.

1. Laboratory Practice in Radio by K. Kazinik.
2. Casuality and Relation of States in Physics by G. A. Hvachnikov.
3. Equations of Mathematical Physics by S. K. Godunov.
4. Higher Algebra by A. Kurosh.
5. The Basic Principles of Dialectical and Historical materialism by A. Spurkin and others.
6. Historical Materialism by Chesnokov.
7. Automatic Measurements and Instruments by P. P. Ornatski.
8. Paleontology by V. B. Dryshitis and O. P. Obrucheva.
9. Principles of Mass Transfer by V. B. Kafarov.

Authorised Agents and Main Distributors

People's Publishing House (P) Ltd.,
Rani Jhansi Road,
New Delhi-55.

Manish Granthalaya (P) Ltd.,
4/3-B, Bankim Chatterjee Street,
Calcutta.

Prabhat Book House,
Trivandrum.

Visalandhra Publishing House,
Sultan Bazar,
Hyderabad.

Lalwani Bros.,
Taj Building,
210, D. N. Road,
Bombay.

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1940, Sector 22-B,
Chandigarh.

Progressive Book Depot.
Motia Park,
Sultanian Road,
Bhopal.

Chetna Book Centre,
1, New Market,
Hazratganj, Lucknow

PPH Bookstall,
190-B, Khetwadi Main Road,
Bombay-4.

New Century Book House (P) Ltd.,
6/30, Mount Road,
Madras.

Visalandhra Publishing House,
Eluru Road,
Vijayawada-2.

Navakaranataka Publications,
Kempagowada Circle,
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What concluded in the afternoon of 16th October at Sevagram brought diverse regional thinking to a sensible national conclusion—that education at every level should be imparted through socially meaningful activities linked both to rural and urban economic growth.

A fresh enunciation of Gandhian values, which Indian education should achieve, was once again given: the first among these being self-reliance. It meant that work must form an important part of the educational programme.

The other is the spirit of nationalism: from this should flow, it was urged, the student-and-teacher involvement in community service.

The third which, incidentally, ought to have been the first, relates to respect for all religions and their essential unity: which made it necessary that ethical and moral values be taught at schools.

Its inauguration by the Prime Minister on 14th October proved that the Conference was highly thought of by Government: no wonder, it adopted a statement of consensus spelling out an educational policy to be pursued by various state governments.

The consensus narrowed down to a working paper, presented at the conference by its President, Mr. Shrinani Narayan.

At one stage, there was a crossing of swords between the Gujarat Education Minister Shri Gordhandas Chokhawala, and the former Union Health Minister, Dr. Sushila Nayyar, on the question of "government interference" in educational institutions. While she maintained that there was too much of it, he found the charge had no basis.

On the question of Basic Education, the Conference has recommended that Gandhian thought should be injected into subjects like economics, political science, education, sociology, and philosophy, both at secondary and university stages. And it should be preferred at the primary and secondary levels.

The schooling period suggested was 10+2+3: after a 10 year secondary education, a large number of diversified 2-year courses should be made available to students, so that they might become more employable after completing them. Although of a terminal nature, these must not, however, debar students from going in for higher studies any time in the future. (Overleaf)



**SEVAGRAM—
IS Gandhi
still
relevant ?**

The follow-up action was apparently left to the government; it could introduce suitable diploma courses according to requirements. Obviously, the initiative from now on will be with state governments.

The first degree course, it has been suggested, should be of three years. It should be followed by appropriate post-graduate and research courses.

The Conference agreed to the idea of neighbourhood schools recommended by the Education Commission. Besides, primary and secondary schools should be thrown open to all children, without considerations either of caste or creed; community or religion; economic or social status.

The Conference told the state governments to give "positive encouragement" to educational innovations—like experimenting with teaching methodology, the examination system, subject organisation and textbook preparation, the training of teachers, and so on; it did not, however, specify whether it should be through sweet words or hard cash. It, of course, did recommend that the administration should not acquiesce in malpractices in private educational institutions, and try to resist the great temptation of assuming the responsibility of running them!

The Union Deputy Education Minister, Mr. D.P. Yadav, who was also present, announced that the Centre would introduce work experience in classes I to VIII during the Fifth five year Plan. He explained that it would bring about coordination of intellectual and physical aspects of the student's personality. Besides, it might even help children earn some money by selling what they made. According to Mr. Yadav, a sum of Rs. 170 crores was proposed to be allocated for the idea—both for the training of teachers and for buying necessary equipment.

In response to the suggestion—by several people that Degree should be delinked from employment, and that persons with sufficient experience and skill, but without degrees, should be given jobs, Mr. Yadav read out a note prepared by his Ministry—it did not firmly commit the government to the idea, however.

One other point, which the government note made, related to some restrictions on admission to higher educational institutions. While acknowledging that it was "a highly controversial issue," it was felt that any restriction sought to be introduced should first ensure sufficient preparation: the courses offered at lower levels should be diversified enough to enable the Youth to fork out gainfully.

The note also mentioned that the Fifth Plan would involve a huge number of youth in tackling adult illiteracy. According to current accounts, the 16-44 age group has as many as 16 crores of illiterates. Many of the educationists—and the Maharashtra and Mysore Education Ministers particularly—stressed the need for altering the present educational system.

But they did not say how. It occurs to me that if Gandhiji were alive, he would have laughed!

—W.D. Miranshah

STUDENTS

It will be recalled that Professor Edward F. Sheffield had presented a paper to the Seventh Annual Conference of the U.K. Society for Research into Higher Education on six selected innovations in higher education in Canada: Community Colleges; Evaluation of Teaching by SPOT; Introduction of STEP (self teaching and evaluation process); a task-oriented curriculum; experiment in general education; reform of university government; and formula financing. The recommendations have been accepted and introduced.

PERPE, whose English version is SPOT—an abbreviation of Students' Perception of Teachers—is a system enabling a teacher to evaluate his teaching by means of a test based on students' perceptions of him. The test devised by Dr. Francois Gagne, was introduced in 37 intermediate colleges between high school and university level in the province of Quebec in 1970. It was administered to some 1025 teachers in 1,196 classes. The test was offered at the university level only in September 1971—to some engineering professors at Montreal.

The test consists of a Questionnaire, containing 61 items, each being an aspect of student-teacher relationship (e.g. course structure, concrete illustrations, ability to clarify, etc). The Questionnaire is completed by students on the request of their teacher. There is a five-point scale, and teachers have

TEST THEIR TEACHERS IN CANADA

to be rated in two ways: firstly, the student situates the teacher on the scale; then he indicates the point on the scale he considers satisfactory. It is thus possible to measure student dissatisfaction.

The response to the Questionnaire does not contain any particular names and the results are

The research division of the Association of Universities and Colleges of Canada carried out an interesting comparative study of governing body composition of more than 50 institutions.

Over the five-year period, both the boards of governors and aca-

tion—from 18 to 43—and in the total number of staff participating; but, with the senates, even though the number of staff representatives had increased, the percentage of total senate membership was slightly lower than before. In addition, only 50% of the senates

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subsidy from the department of education. The service has also been offered to foreign institutions, which are normally charged a fee for its use.

STUDENT GOVERNORS. TOO

Emergence of student participation, the growing size of governing bodies, the increasing senate and teaching staff influence, and the diminishing church role are some of the apparent changes in composition of the governing bodies of Canadian universities and colleges between the years 1965 and 1970.

representatives.

An even greater change is discernible in senates, where the number of student members has steeply risen from 2 to 281! Even the number of senates, with such members, rose from 1 to 46. Along about 1970, students had formed nearly 12% of the total membership of these senates.

Senates and teaching staffs appointed considerably more members to both boards and senates in 1970. In the case of teaching staff, however, the situation is not quite clear: on boards, there is, indeed, a very marked increase in the number with staff representa-

clergy-membership in the senates has fallen significantly: although they served on more senates in 1970 than in 1965, their average number on each was smaller, as was the number of senates on which they formed a majority.

David — a Student of medicine, just turned twenty-three — had a terrific brain-wave one day. He began in his apartment, at Baker Street in Central London, a smart roof garden. And you know what happened? He was fined £40 now, don't look crest-fallen — his crop was marijuana!

Open University likely To be a big hit in America

Complete arts, science and mathematics courses devised by Britain's Open University are now being tested in the United States.

The one-year courses are the first to be bought anywhere in the world in their entirety. Four American universities have purchased the integrated radio tapes, television programmes and correspondence material.

The universities are Rutgers (New Jersey), Maryland, Houston State, and the University of California (San Diego).

At Rutgers, most of the 400 students who will share the courses will be off-campus—people in jobs studying for degrees in their spare time.

At the other universities, the material will be shared by students in the classrooms as well as those at home. A spokesman of the Open University said: "The teachers have the material on a year's trial and will doubtless decide whether the kits are best for person-to-person learning or by post."

Growing numbers

Other overseas markets are being explored by the Open University; which until now has sold individual packages as distinct from entire courses.

And the number of countries considering learn-at-home universities of their own, modelled on Britain's Open University, is increasing. They include Mexico, Federal Germany and Japan.

"These countries," says the Open University, "are given every co-operation in studying syllabus and teaching methods, but any university they do set up would be entirely their own."

The establishment of the Open University, which began its first courses in January 1971, marked an important innovation in higher education in Britain. The main teaching methods of the university are a combination of television and radio broadcasts, correspondence work, done by the student in his own home, and summer schools.

Some 24,000 students began courses in January 1971, and a further 20,000 were admitted to courses which started in January this year.

The seminar, inaugurated by the Vice-Chancellor, Dr. George Jacob, suggested adoption (and publication) of a scientific procedure for revaluation of answer-papers when requested by any of the candidates; the facility would possible misuse.

The seminar had attracted some interesting papers on various aspects of the examination system, including on how to improve it.

WEST BENGAL TO SWITCH BACK TO 10 + 2 + 2

Calcutta, October 15 — The Bengal Cabinet today decided to switch back to the 10-class school system. It was decided after the views of various teacher- and student associations, college principals, vice-chancellors of some other universities and certain people had been examined. Besides, it also found it in line with recent directives of the Central Government in this behalf.

The State Government proposes a general 10-year school to be followed by a two-year intermediate, in which the emphasis would be on vocational syllabi. Even some of the present Higher Secondary Schools might be converted, although under different manage-

ments, into intermediate colleges.

It is likely that the Press Course would be for a two-year and the honours course for a three-year term; but universities concerned will have the final say in the matter of graduate studies.

The switch-back will cost around Rs. 10 crores.

KERALA SEMINAR ON PAPER-MAKING

A seminar held recently under the auspices of the Kerala University Union recommended that a workshop on paper making be conducted by the University for the guidance of examiners; an assessment of the student's merit would be an essential element of this programme.

Dutch Educationist Honoured after 302 Years !

Every year some 10,000 people visit a museum in the Netherlands town of Naarden that commemorates the great Moravian educational reformer and theologian, Jan Amos Komensky, better known as Comenius.

Born in 1592, Comenius died in 1670 and was buried in Naarden after spending much of his life travelling throughout central and northern Europe. Comenius is best remembered as an educational reformer. As Mr. H.J. Heule, told Anna Boender of the Hilversum newspaper *Gout-en-Keminder*:

"Comenius is still one of the most modern educators in the world. Everything that students are rebelling against today Comenius would certainly have understood. He was a strong advocate of the element of play in education. He strove for the right of every human being to develop himself as fully as possible through his God-given abilities. He was a revolutionary because his efforts and the concepts they represented were a danger to those institutions and powers which prevented others from developing themselves."

Comenius's ideas foreshadowed such present-day concepts as visual aids to education, permanent education, the World Council of Churches and international co-operation. He believed in democratic, universal education, encouragement of creative thinking, the importance of the teacher's personality for the success of his work and the evil of all dogmatism. He posed what were new problems in his time, prob-

lems such as the relationship between education and society and the international organization of education and scientific research which still have not been solved.

Before becoming director of the museum three years ago, Mr. Heule was an Amsterdam businessman. When he began as director, museum affairs occupied three hours of his day. Now he gives them ten hours a day. He is studying the Czech language so as to be able to talk in their own language with the many Czechs who visit the museum.

Mr. Heule praises the Netherlands Unesco Centre for sending a travelling exhibition on the great Moravian to schools around the Netherlands. The exhibition combines words and images to give a picture of Comenius's life and works.

LORD HALSHAM ASSENTS TO DISSENT!

New Delhi, October 9—The Lord High Chancellor of Great Britain, Lord Halsham, who received the honorary degree of Doctor of Laws today at a special convocation from the University of Delhi, emphasised the utility of dialogue between teachers and students. He warned that the university should not be made a forum for expressing "revolutionary ardour." This did not mean, however, that the dissenting minority should be dismissed: the university was a unifying and civilising force, and that the minority expression should be allowed if it was non-violent.

'India should Finance Sanskrit Chairs in Foreign Countries'

—Nurul Hassan

At the inaugural of the Kendriya Sanskrit Parishad's second meeting, on October 4 at New Delhi, Professor Nurul Hasan emphasised the adopting of new Sanskrit teaching techniques. While he was all for extracting the best from the old values, he felt that innovation was equally necessary. Most of his listeners were Members of Parliament; a good majority of the rest were prominent scholars of the language.

The Education Minister upheld the idea of proper pay scales for Sanskrit teachers. He would have

other benefits extended to them, too; he mentioned, in this regard, that proper allocations had been made in the fifth 5-year plan for Sanskrit development.

The Minister informed the audience that foreign universities were keen on instituting chairs for Sanskrit studies—which India should finance, so that the message of Sanskrit should reach a larger number of people: "Sanskrit (is) the language of Indian culture and thought... it contains not only the message of humanism and a tolerant outlook but also is a potent force for social justice."

CBRI : A Face-Life for Village School

New Delhi, 28th September, 1972 — "If our country is going to make progress, it could happen only if we remove our backwardness through education. It is science & technology which give us the power and means to do things in a better way", said Shri C. Subramaniam, Minister for Industrial Development and Science & Technology, while inaugurating the newly constructed building of a primary schools at villages Premrajpur and Mandawar of Distt. Saharanpur on Wednesday. The buildings were designed by the Central Building Research Institute (CBRI), Roorkee and constructed in a record time of 21 days at a cost of only Rs. 8,500 each.

Welcoming Shri Subramaniam Prof. Dinesh Mohan, Director, CBRI, Roorkee, said that this school building has one of the schools which programmed to be constructed all over Uttar Pradesh at an estimated cost of Rs. 5 crores. The Institute has undertaken to plan, organise and supervise construction of these schools buildings and this is both a challenge and an opportunity to the Institute to prove one of its researches on such a large scale.

In Uttar Pradesh, there are nearly 63,000 primary schools. About 35,000 of them have no buildings of their own. In addition, about 25,000 new primary schools would be opened during the next five years. This would raise the number of school buildings to be constructed in UP to about 60,000 in the next five years.

The CBRI was requested by the State Govt. to develop a prototype and to provide technical guidance and supervision in the construction of 12 prototype school buildings in the districts of Lucknow, Unnao and Rae-bareilly. The CBRI has worked out a three phased plan and a pre-fabricated system built construction.

The total programme of construction consists of about 6,000 primary schools in the rural areas of 51 districts of the State. The average estimated cost of each school building is Rs. 8,500 and the total cost is of the order of

Rs. 5 crores. With conventional design and methods of construction the cost of each school will be 20-30 per cent higher and time taken for construction will be at least twice.

Besides catering to the social needs of providing maximum number of primary school buildings with the limited financial resources, the project will afford employment not only to engineers and technicians but also to unskilled village labour. According to a rough estimate it will provide employment opportunity for about 23 lakh mandays of which about 6.71 lakh mandays will be for skilled workers and about 16.22 lakh mandays for unskilled village labour. In terms of wages this would mean a total amount of about Rs. 1.10 crores.

Delhi University—A New Mood for Old Ideas !

Probably now is the turn for reforms at Delhi University. With the strikes over, a sobering thought is overcoming both teachers and students. While the former have promised through the DUTA President recently, that they would take classes on holidays as well to make good the loss of students' study periods, the latter have promised to attend them.

The recent meeting of teachers, students and staff encourages such speculation. It was good to see them talk for a change about the bringing about of quality in education and in the administration.

For some five years now, the university community has been talking of reforms. The idea, mooted perhaps in 1967 by DUTA, shuffled its feet first. It progressed

somewhat under Dr. K. N. Raj, the former Vice-Chancellor. And, under the present one, it is picking up. The whole thing relates to decentralization.

The Reforms Committee discussed decentralization now made inevitable by the ever-growing size of the University: a centralized management is far from able to handle it, and its democratisation appears to be necessary so that it may function effectively. The urge to preserve the federal character of the University is always there: but the Committee is certainly dissatisfied with what the Gajendragadkar Committee has recommended.

It is expected that the five sub-committees will soon begin the

work in their relevant fields. The sub-committee on student services and welfare, for instance, will examine the entire issue on a scientific basis. And the College Government Council may review perhaps the Staff Council experiment: the focus is likely to be on the problems it has brought in its trail.

The task of the Returns Committee, insofar as decentralisation is concerned, looks tough enough. On the one hand, the Government is against a second university; and, on the other, teachers do not (repeat not) want the College Councils! The thing most likely to happen, is that the University might assume the looks of some foreign multi-campus universities; in which case, every campus will be a composite unit, looking after postgraduate studies and the colleges within its jurisdiction.

To Punjab University-Love and goodwill from Alberta

From the Alberta University comes the interesting news that old Panjab University students, now settled in Canada, have formed the Panjab University Alumni Association. It has shown a keen interest in the welfare and growth of the University and even offered scholarships to its students. Possibly, the recent inauguration by Vice-Chancellor Suraj Bhan, of the Association of Alumni Relations of the University is premised on the role that was explained so well by him: "I feel that it would open a channel of communication among those who passed from this University whether from Lahore or Chandigarh." Indeed, he hoped that it would gradually bring the alumni, now scattered all over

the world, closer and create a fraternity.

What will be this fraternity like? The answer can be read quite clearly from what the Vice-Chancellor said: "The relationship between the University and its students is that of the benevolent mother and her children in the best Indian tradition, which can neither be determined by materialistic nor by contractual considerations." He compared the University to a tree, of which graduates were the fruits.

Apart from appreciating the efforts of those Canadian students, he announced that the Association had enrolled 250 life members and collected over Rs. 52,000 for utilisation on the various activities the association might plan.

**"We would never allowed to return if we photographed the ladies within the precincts."
—A Head porter in King's College, London**

It happened at the King's College (founded 1411) recently in England. The head porter was obviously referring to the permissive state of Cambridge's colleges, where a senior tutor, Geoffrey Lloyd, was trying, obviously without success, to surround the 37 undergraduates of his college with secrecy.

A student, Janet Piesold, from Wrotham (Kent) received, as usual like other freshmen, an invitation from the King's Boat Club to come and have "a glass or two of sherry with the president." The invitation was to anybody "who is even slightly interested in rowing or coxing (especially the ladies)."

Otherwise, the Cambridge academic atmosphere got off to quite a good start.

In Clare, there are 38 women undergraduates. They have been admitted in spite of some opposition from leading local opinion which queried "Excluding women had worked perfectly well for 600 years, so why change?"

And the most interesting thing about them is that all of these colleges, which have resident female undergraduates, apparently raise no eyebrows on males giving them company in their rooms at any time. To all this, Mr. Francis Bown, hardly 24, who has founded the League for the Preservation of Gentlemen's Colleges, is the lone dissenter: as if going of these colleges mixed were a little too much for Mr. Bown, he is now reading for holy orders at St. Stephen's College, Oxford, although he denies changing universities because of it. He did of course say: "They have decided to let them in at Oxford too. It's all rather disgusting."

The U.K. Vice-Chancellors Committee Undergoes Changes

The beginning of 1972-73 session has brought some changes in the U.K. Committee of Vice-Chancellors and Principals. The pattern of its operations has changed, too.

It is likely, for instance, that the full Committee will meet nine times in a year, instead of six as at present. And it will be supported by four small Standing Committees—Finance and Development, Academic Affairs, Staff and Student Affairs, and International University Affairs. These will carry out and complete depth

studies of various issues before a policy discussion by the Committee.

The present Steering Committee will be replaced by a new General Purposes Committee, which will take over the executive work. It will bring about not only a greater flexibility in the day-to-day business; but may also provide the main Committee with an opportunity for a wider and general discussion of some of the major issues.

The Vice-Chancellor of the University of Sheffield, Professor H.N. Robson, is the Chairman of the Committee for 1972-73; and, Lord Annan, at present provost of the University College of London, the Vice-Chairman.

JERUSALEM'S NEW LIBRARY HAS 120,000 BOOKS !

Jerusalem's new central library was dedicated on 4 September. The 120,000-book facility housed in a new seven-story wing of the Beit Ha'am civic centre was built largely with a \$700,000 gift to the Jerusalem Foundation by New York attorney Arnold Grant. It is called the Carl and Daniel Mayer Library, after Mr. Grant's two grandsons.

Most of the facilities will be segregated according to age. A children's library is located on the ground floor, a cafeteria on the first floor and a lending library for adults and youth on the second floor. The third and fourth floors contain reading rooms for youths of various ages. The fifth floor has a reading room for adults, including a newspaper section, and on the sixth will be a gallery for the lending of art reproductions.

The world's printing presses produce 260 books and 4,500 newspapers every second! A completely new book appears every minute. More than 5,000,000 titles in eight million copies are published every year. Placed side by side and cover to cover, the books printed in one year would circle the earth four times!

ONE HUNDRED SCHOLARSHIPS FOR BANGLADESH!

India has offered some one hundred scholarships to Bangla Desh students for higher and specialised studies in Indian universities, and has requested the Bangla Desh Government to assist them by facilitating the completion of formalities relating to admission in various universities here. The scholarships are for the next academic session.

UNIVERSITY TEACHERS TO FINALISE DOCUMENT ON NATIONAL EDUCATION POLICY SOON ..

Prof. Amiya Dasgupta, said at a press conference on Tuesday, October 4, that the Executive Committee of the Federation of University and College Teachers' Organisations had decided, during a meeting on 2nd October, to hold a national convention to finalise its proposals—contained in a document on national policy—on education reform towards the end of November; he announced, too, that an International Seminar on Teachers' Organisations and Higher Education would be held in January of 1973, in Calcutta.

The other demands voiced by in Calcutta by Prof. S. N. Choudhury of Bihar are: higher status for teachers, improvement in the service conditions of all categories of teachers, and the determination of minimum national scales of pay; a radical overhaul of the existing examination system, and rationalisation of syllabi.

PAU BOTANIST FOR NIGERIA

Dr. Ranbir Singh Kanwar, Economic Botanist (Sugarcane), left for Nigeria on an assignment pertaining to sugarcane research and development in that country. Dr. Kanwar is one of the two Indian sugarcane scientists deputed.

LONDON, October 11—Lord Ballantrae, formerly Sir Bernard Balantre, has taken over as Chairman of the British Council, in succession to the late Sir Leslie Rowan.

Lord Ballantrae, a former Governor-General of New Zealand, will assume charge of his new post sometimes next month.

As Chairman of the British Council, which is devoted to the development of closer cultural relations with other countries and the promotion of wider knowledge of Britain and the English language, Lord Ballantrae will undertake overseas tours in addition to welcoming visitors from other countries to Britain.

Born at Kilkerran, Ayrshire (Scotland) in 1911, Sir Bernard

Sir Bernard takes over as Chief of British Council

was educated at Eton and Sandhurst. He joined the Black Watch in 1931, serving subsequently as A.D.C. to Major-General (later Field-Marshal) Wavell. After his Army career, he was appointed Governor-General and Commander-in-Chief of New Zealand in 1962—a post he held for five years.

Lord Ballantrae is also an author and poet—he has written numerous books about his school, regiment, travels and the war.



New Aligarh Act Undemocratic

A three-day convention of teachers' representatives from four universities—Aligarh, Viswa Bharati, Jawahar Lal Nehru and Delhi—ended in Aligarh on Saturday, the 16th of October: it concluded that the Aligarh Muslim University (Amendment) Act would not be acceptable to teachers. Besides, they looked at the Gajendragadkar Committee's report as undemocratic. They felt that the Amended Act had given excessive powers

both to the Vice-Chancellor and, through the Visitor, to the Central Government; and that the apex-centre structure of the university would act as a hindrance to any meaningful teacher-student participation. In their opinion, the new system had provided for nomination, rather than election; and no staff association had even been consulted before the new Amended Act was being drafted: this was an important indication of things

to come at other central universities, too. A mention was made also of Vishwa Bharti: it was said that "democratic opinion" was being suppressed there.

The teachers promised that they would soon mobilise public opinion against such measures; and, if the attempt failed, they would even resort to "other means including agitations."

Jalnanabad, October 14—It is learnt that the authorities of Magadh University have instructed its affiliated colleges to hold the meetings of their governing bodies in accordance with the provisions of the University Act: it requires that there should be at least four meetings in an academic session, at an interval not exceeding four months. Besides, the university has also advised the colleges to fix

MAGADH UNIVERSITY TO KEEP AN EYE ON GOVERNING BODIES

meeting dates after consulting Government and University's nominees.

This is part of the programme to check irregularities like irregular payment, non-deposit of provident fund contribution in the

governing bodies of affiliated colleges. Also, some violations of the recommendations of the University Service Commission and continuation of the services of temporary lecturers beyond six months have been brought to the notice of the authorities. In addition, the university has also directed its representatives to be present at all meetings of college governing bodies to prevent such violations.

German Expert recommends introduction of work experience in schools; NCERT going through report

Chandigarh, September 23—The Panjab University Syndicate recently agreed to students' representation, as recommended by the Gajendragadkar Committee.

This will necessitate amending of the Panjab University Act. The University is likely to ask the Centre to do so.

The NCERT has just received a report of the German Democratic Republic expert, Dr. Dietrich Blandor, who has suggested introduction of work experience in the educational system.

The report concerns itself with the concept of work experience in India during the Fifth Plan: it considers the framework for dif-

ferent school work and minimum requirements of curricula for work experience. In addition, the report also suggests in-service training for working teachers and the setting up of an organisation for implementing the work experience scheme.

When questioned by newsmen, whether it meant vocational education, he said: "It is different: the children not only learn to produce things but also why and what for they are produced and how they are used in daily life. In addition, work experience provided for a change in social relationships, a break-down between the blue and white collar."

CALICUT UNIVERSITY CELEBRATES FREEDOM JUBILEE

The Calicut University celebrated the silver jubilee of Indian independence by organizing an extended course of lectures on the history of the freedom movement for the benefit of the new generation of students, for whom the movement itself is a thing of the past and not an emotional experience.

Some 50 young men and women, mostly college students, attended the course sponsored by the Gandhi Peace Foundation and the History Department of the university. Veteran freedom fighters, intellectuals and academicians lectured to students on the freedom movement, tracing its history. And they stressed the various movements, paying homage to the hallowed memory of the immortals who laid down their lives in the cause of India's independence.

The Vice-Chancellor, Prof. M.M. Ghani, in an inspiring talk at the Valedictory function, reminded the audience that there

was greater need and relevance for the spirit and the ideals that had moved the freedom fighters. He called upon the sponsors of the course to organize a series of lectures on our struggle for independence, in summer next year, in the Calicut University. He said that, more than the recounting of events and theorizing on ideals and concepts, a concrete presentation of the inspiring lives of great men and women of the recent past would instil a sense of patriotism in the minds of Indian youth.

A New Department, Too

The Calicut University has started a new Department of Commerce headed by Dr. Mohammed Mohsin (on deputation from the University of Aligarh). The Department will start an M.Com course from the next academic year. A department of Education will also be organised at the University soon.

A CHINESE DICTIONARY IN DEVNAGRI?

If a press report is to be believed, Acharya Vinoba Bhave may bring out a Chinese Dictionary, using Devnagari script. And this is not all: he might even provide us with one in Japanese and another in German. The English edition will, of course, be there. He is understood to have announced it in the course of his address to the all-India National Education Conference at his Panwar Ashram on October 15.

Although he would welcome government help, he would not depend on it entirely. He urged all educationists in the country to adopt Devanagari script, even for teaching English!

Bombay, October 4—The Maharashtra Government recently decided to establish two new universities; one for the Vidarbha region at Amravati consisting of Akola, Buldana and Yavatmal districts; and the other for Western Maharashtra region.

**"A thrilling experience which
will be with us for years to come."**

That is how members of the Indian contingent to the Olympic Youth Camp in Munich summed up their impressions after four weeks of international living in a youth village set up to propagate the spirit of the Olympiad.

The 15-member youth delegation, composed of sports trainees and coaches from six Indian universities, had the satisfying experience of contributing their share by presenting vignettes of Indian life and culture at the "Evening of Nations." Their performances not only won them acclaim from fellow campers but also from audiences all over Germany on the television network which featured them in a nation-wide programme. In return, they formed their own impressions of the host country from numerous social calls, get-togethers and sight-seeing tours.

India's youth delegation was one of the many contingents which converged on Munich from lands far and near. They were there in response to an invitation from the Organising Committee of the 20th Olympic Games in Munich. Their aim, to have an opportunity, as Chairman Willi Daume put it, to "get to know others better, to acquire a greater understanding of others and, finally, for intellectual discussion on the Olympic movement."

Answering the call were some 3,000 youngsters in the 17-to-22 year age group from as many as 70 countries. They wore many dresses and spoke different languages, but all finding a common denominator in cultural activity. There was sport, dance and music, get-togethers and symposia, and, above all, glimpses of the greatest sport festival on earth.

"A thrilling experience !"

Life in the youth camp, organised for the first time as part of the 20th Olympiad, in many ways reflected life in the Olympic Village in Munich and Kiel. They lived a community life in a bungalow township and dined in a common mess.

And though a number of young

guests had to spend the nights in schools buildings turned into make-shift dormitories, the atmosphere nevertheless was happier than the organisers had ever imagined. The general comment was: "The people are helpful and friendly."

—Courtesy: German News

Free Education upto 8th?

The Union Deputy Minister for Education, Professor D.P. Yadav, spoke on an unofficial resolution at Induchacha Nagar: he assured every one that the Union Government was proposing to provide free education upto the 8th standard, during the period of Fifth Plan. He did so as part of the Congress Party's election manifesto that compulsory education would be provided to children upto the age of 11 by 1980. Education has already been made free for Harijans' and Adivasis, he said.

Importance of children in Economic development

A study of the importance of children in the process of economic and social development has just been published by the United Nations.

Entitled "Children in the Strategy of Development", the 64-page booklet details how a national policy for children and youth can be formulated, articulated and implemented within the content of a national development plan.

Farm Engineering Symposium Likely to be in December

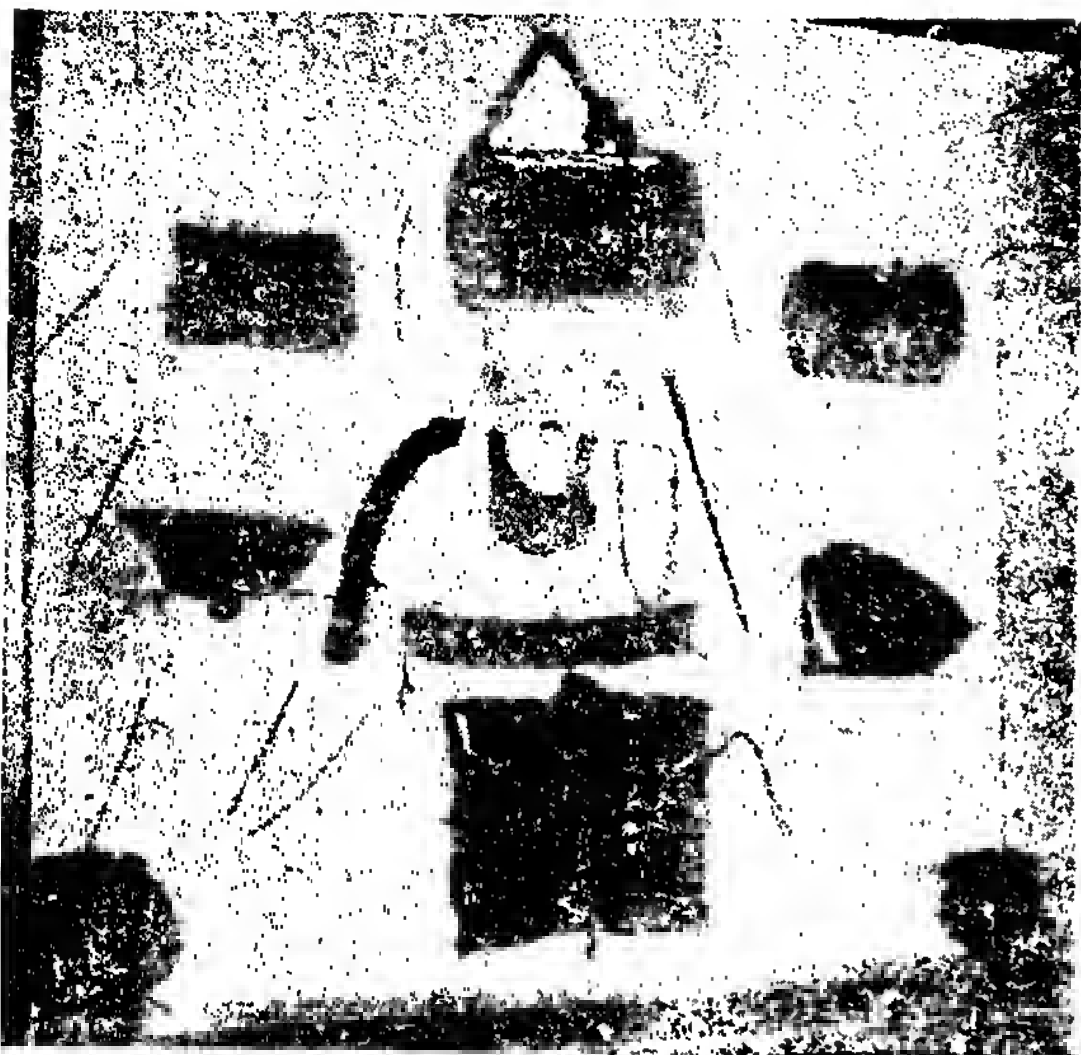
Planned and designed by the National Design and Research Forum of the Institution of Engineers (India), the national symposium on "Engineering in Agriculture" at Bangalore, which will last a fortnight in December, is likely to be simulating. In view of its broad-based relevance, the

Seminar will perhaps attract a large number of agriculturists, engineers and scientists. Besides, many agricultural organisations and industrialists will also find it a good common forum for an exchange of ideas on modern mechanised farming.

THE MUSEUM OF FOLK- LORE AT MYSORE UNIVERSITY

S. PARMASHIVIAH

Reader, University of Mysore



In Karnataka, the collection of folklore began four decades ago as a matter of casual inquiry and interest. In recent years, the collection of folklore has taken a more active form. The Institute of Kannada Studies (in Manasa-angotri) has not only introduced the study of folklore at the Post-graduate level but has also started a folklore research wing for discovering the gems of our heritage. Also it has a folklore museum for collection and display of rare folklore articles.

Two scholars can be rightly proud of these achievements in such a short period of three years: Mysore University Vice-chancellor,

Professor D. Jaware Gowda, and Prof. H.M. Nayak of the Institute of Kannada Studies.

Though the concept of folklore museum is new to India, universities in the West founded such museums in the last century, realising the importance of folklore. The collection and preservation of folklore is an urgent necessity as it is vanishing rapidly due to the impact of industrial and scientific advancement. Folklore museums, which preserve and protect the traditions of the glorious past, were organised in every country of Europe during the last century.

When Prof Jaware Gowda was Director of Institute of Kannada

Studies in the University of Mysore, he initiated the establishment of the folklore museum with the services of a few experienced folklore field workers in the small room of his office. The cash he had received from the Nehru Award and his traditional jewelry all went to the museum. In a year, the collection of folklore materials was so rich and varied that the museum was moved to a separate building.

The collection from all corners of Karnataka was undertaken in right earnest. Materials relating to various occupations and of daily use, old ornaments, dresses, sets of weapons, tools, wooden carvings, paintings and sculptures — all of which reflect the glorious culture of Karnataka — were collected and displayed in the museum; today it is so thrilling to visitors and scholars alike. The work of further exploration and collection will continue under the guidance of Dr. H.M. Nayak, who is a prominent scholar of linguistics, folklore and Kannada, and a renowned critic of the Kannada literary world.

The folk play "Yakshagana" of Karnataka represents several distinct schools and regions. Very old artistic and ornamental crowns, shoulder and chest-ware, and the costumes used in Yakshagana, are displayed in the museum. To facilitate a comparative study, some of these dresses and costumes relating to the folk theatre of Andhra and Kerala, are also displayed. Costumes used in "Kathakali" of Kerala and "Veedhi Nataka" of Andhra are of special note.

Another important feature of the museum is the display of puppets and dolls collected from Bellary, Tiptur, Bellur and Kun

dapura. The artistry in them is very engaging. Particularly, the dolls of Tiptur represent a high degree of skill in carving and costume. The collection of leather puppets depicting various regions and epochs, is one of the unique features of the museum. Their display is quite thrilling.

Yet another important feature of the museum is the collection and display of musical instruments used in folk-plays of the ballad tradition. Mention may also be made of a few instruments like Kinneri, Gane, Choudike, Kainsafe and Chande etc. Paintings and photographs indicate various occasions.

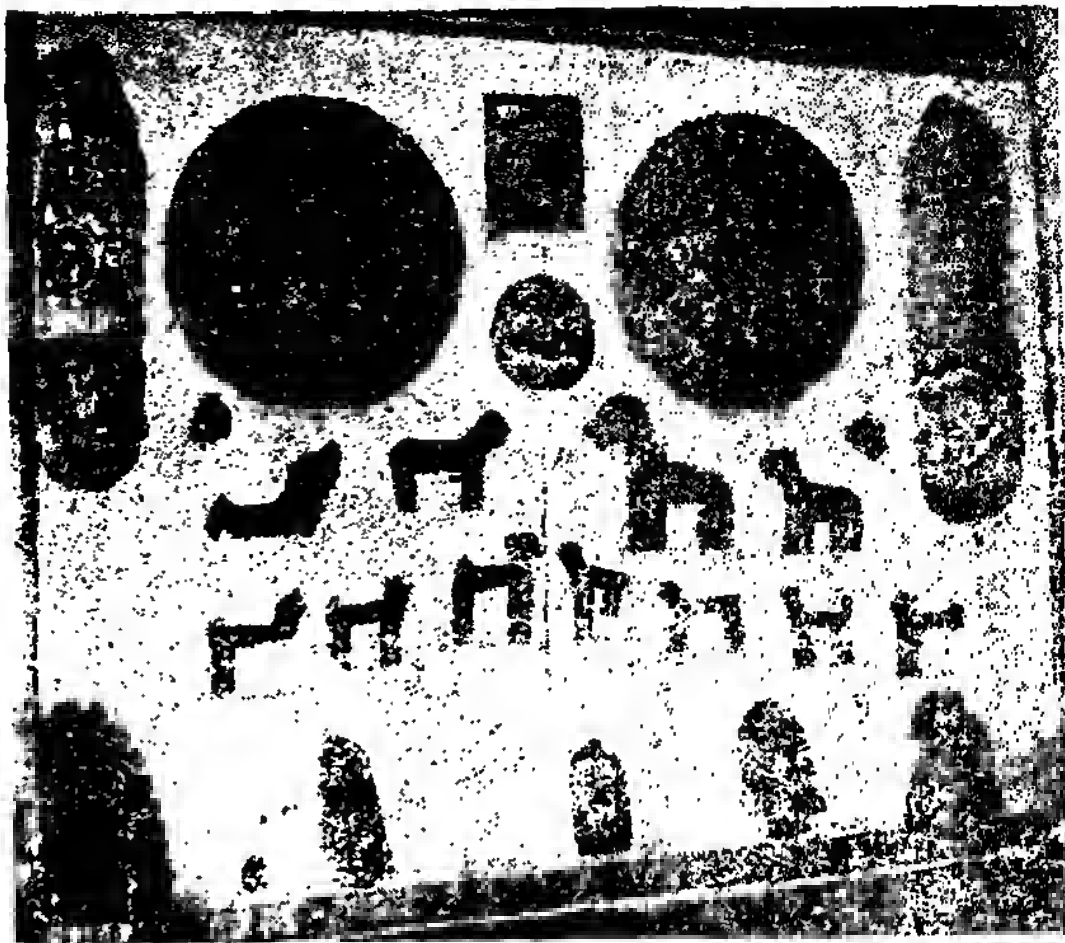
Some richly decorated old dolls of Dasara and Gowri traditions are displayed, too. And there are also on display different kinds of masks used by folk artists. Moving dolls of old, with ingenious devices for movement, have been secured and displayed. A wooden doll of 18 inches in height, with a device inside the body connected with strings, can be played to dance, wink and even move the lips!

Many more old articles like the measures, agricultural implements, different kind of baskets, lamp stands, many kinds of sickles and swords, vessels, ornaments and images give us a picture of Karnataka traditions. The Institute of Kannada Studies, in addition to its Postgraduate classes in Kannada, linguistics, and translation, is also devoted to research in Kannada language, literature and culture. It has brought out some outstanding works on folklore.

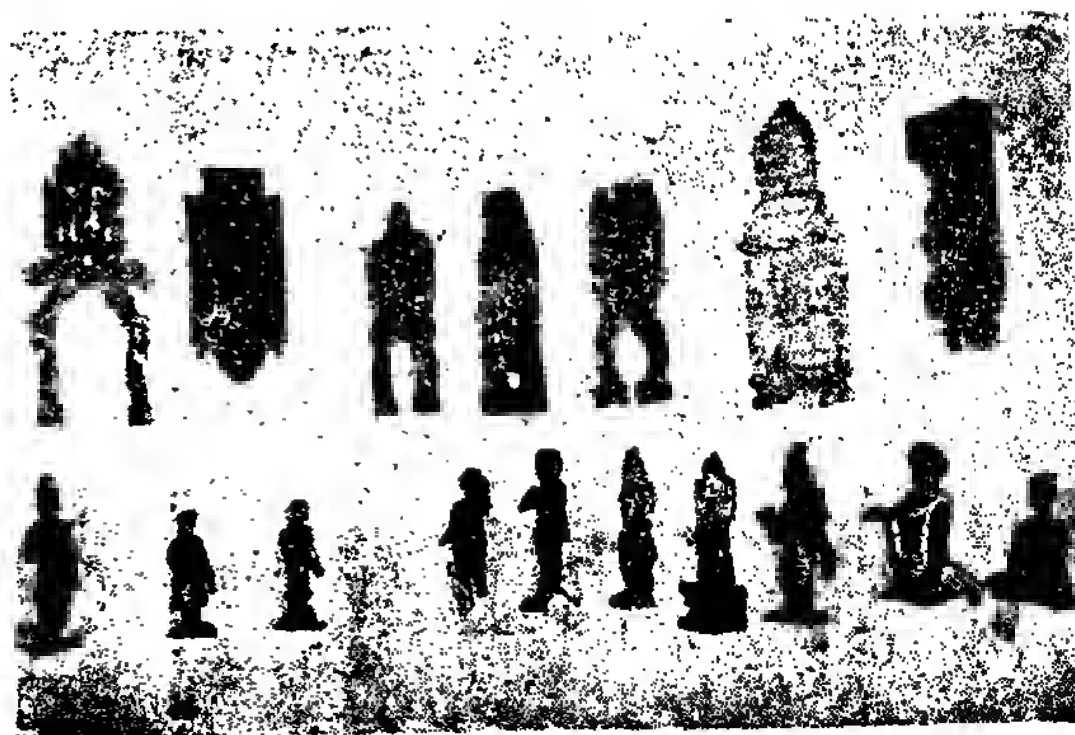
The Institute also records our rich heritage of folk music-vocal as well as instrumental-for the benefit of the present and future generations. The progressive expansion of this museum and folklore research in Manasagangotri is

assured under the guidance of the Vice-Chancellor and Dr. H. M. Nayak. No doubt, this museum

will be the harbinger of such museums in other Indian Universities as well.



Some known and notknown village delities being exhibited at the Mesecum



Wood Carvings and Dolls (Above) Exhibited in the Museum of Folk Lore at Mysore University.

On the page to the left—Musical instruments

THE THREE-LANGUAG

The three-language formula is as effective as the three-legged race. True, in Europe many speak three to four languages—living ones, not Latin or Greek—and academic. The analogy will not work here because we have papyrus Hindi, live regional languages and destitute English which refuses to quit India. Incidentally, the Assamese and the Bengalis are at each other's trial; it could be due to wrong spellings and bad grammar!

Technically, the language learning part of the brain is most effective till the age of 14. In our case, it ought to be less due to protein-deficient diet. After this, conceptual faculty takes over and the purely perceptual (parrot-ability) recedes. Obviously,

the burden of this linguistic enthusiasm will be on the school-goers. In any case, what is so precious about saying good morning in seven languages? When Bernard Shaw was told of a German professor who knew 64 languages, he was shocked: "Shakespeare knew only one!" He said.

As things are, 60 per cent of a schoolboy's study time is eaten up by languages—a criminal waste of academic hours. Sit with a child, help him translate Sanskrit dual forms and you will see the desperate confusion which is achieved inside of 20 minutes. What percentage of this will come in handy when our youngman is looking for a job which isn't the like it or not, we have to think in terms of a techn

QUOTE

A Comment: "This year, we are witnessing not only the agitation of students but also by the teachers and even by the managers."

Next year, hopefully, it might even be the vice-chancellors!

* Robert Goudin observed in his brilliant analysis of the Indian University: "The most important fact of an Indian student's education is that he is untouched by it."

The news must have been leaked by Jack Anderson!

* Another Comment: The Government of India seems to attribute all troubles in the country, including those in the university, to the mischief of opposition parties and lately to the CIA."

It has to pass the buck on to someone!

* The report of the Committee of Vice-Chancellors of Nigerian Universities: "With the expansion of higher education as a whole in Nigeria, and the establishment of new universities in many other countries, the problem of recruiting staff for the universities in Nigeria has become formidable."

We can loan them some of our agitation experts!

* Prof. Nurul Hasan on Fifth Plan targets: "There should be no doubt that we should improve every educational institution to the best possible level."

Which, in other words, means that we must appoint at least one more commission

FORMULA

nic society, in which English is becoming as international as 1, 2, 3, 4. Years go by. We cannot make our mind about the shape of education. Matriculation, higher secondary, school, college-round and the mulberry bush. Most of our syllabuses and textbooks are ripe for the Kabariwallah. I have one with me, produced by a national concern. On the title page it acknowledges help "greatfully"! The board of directors reads like an olympic team; the performance is as good. Most of the authors are copyists and rather uncertain about the original's. What is needed is a ruthless unsentimental trimming of the non-essentials: what the student will need in his time years ahead, not what he ought to

have. If it happens to be just another agitation for the benefit of the usual customers, I will share the joke. But if the classical sowing is being done for the schoolboys to reap, I shall protest as a harassed parent. I can swear the promoters do not believe in the wisdom of the language. There is an injection: Panchashodhe vanam vrajet. (After fifty, one should go to the forest). Watch any of them doing it!

New Delhi
Sep. 25

B.K. Roy
D-88, Defence Colony

UNQUOTE

to find out why all previous commissions have made a similar point!

* Mr. George Kurivilla, Ranchi, in a letter to LINK Newsmagazine: "The solution to the teachers' strike in Bihar lies in nationalisation of all schools and colleges.

He must have overheard Vice-chancellor Joshi!

* National Herald: "Teachers' day is observed by the nation on September 5..."

And promptly forgotten on September 6!

* Mr. H.M. Mathur: "Despite significant achievements by some countries in cutting down the illiteracy rate, the total number of illiterates is larger than ever before."

That shows how miserably the family planning propaganda has failed to educate the masses!

✦ A seminar on examination reform at the Guru Nanak University, in 1971, suggested: "The examination phobia among students should be removed..."

By promptly leaking examination papers at every centre!

* News: "In Japan, a woman is not considered educated unless she knows something of the art of flower arrangement and of traditional ceremonies."

In India she is considered illiterate, unless she is able to find a man, marry him and then put him in a corner.

— W.D. Miranshah

The need for a systematic education in mass Communication in India was crystallized when a Mass Communication study team sponsored by the Ford Foundation and headed by Dr. Wilbur Schramm submitted its report to the Government of India in 1963.

Though courses in Journalism were offered by four or five universities as early as 1940s and the early 1950s, the course content was isolated and mostly skill oriented; on the other hand the concept of communication as a science has been in India for less than a decade.

Of the notable institutions, the Indian Institute of Mass Communication, at New Delhi, may be rated as the premier national institution that gives training and guides research in different fields of the modern concepts of communication education. Founded in 1965, based on the Ford Foundation Study Team's report, the IIMC lays emphasis on the developmental approach, and serves as a nucleus of training a large number of communication personnel both of Government and of the public sector undertakings. Its training and research facilities are also utilized by personnel deputed by some Asian and African countries under the Colombo Plan and under the Special Commonwealth African Assistance Programme. The Institute's in-service training scheme benefits the communication personnel already engaged in mass communication work by different state governments and public institutions. A unique feature of the Institute is that it relies on such indigenous means of mass communication methods as folk ballets, puppet shows, and oral and traditional media of communication. Thus, the Institute is constantly adapting the course content to suit the native requirements of the audience, keeping in view the fact that effective communication must be localized and geared to the norms of the recipients.

However, other national institutions such as the (NICD), the Central Family Planning Institute, and National Institute of Community Development, the National Council for Educational Research & Training are primarily engaged in communication research and training relevant to their fields of work such as community and rural development, family planning campaigns, and the spreading of literacy as well as effective teaching and extension methods. The NICD has undertaken significant field research on the structure of rural communication and diffu-

MASS COMMUNICATION

In India, with its huge population and educational attainment of the 11%, an awareness of social communication education as an instrument of social change has come rather late. However, India is now ripe to accept education in journalism and mass communication as vital. The next stage is to

BY S. EASLER DEEN

AN OVERVIEW

sion of information. It has published nearly a dozen books on rural communication and leadership patterns in India.

However, there is no proper co-ordination of the role of these institutions; it partially accounts for the failure to apply their research findings on a national scale. In fact, the Mass Communication Study Team suggested the setting up of an Advantage Centre of Mass Communication to meet national needs and to co-ordinate the work of different research and training institutions.

In meeting the needs of the press and the training of journalists, the Press Institute of India plays a key role. Founded in 1963, the PII is sponsored by newspaper publishers and is affiliated to the International Press Institute. It holds regional workshops and refresher courses for journalists of the English and regional language papers. The PII through its numerous seminars on science writing

Agricultural University at Pant Nagar and the Panjab Agricultural University at Ludhiana. In fact, these two have emerged as full-fledged agricultural communication centres that now offer post-graduate degrees in mass communication areas of agricultural information research and dissemination.

One of the problems faced by higher educational institutions in India is the medium of instruction. In India, higher education is still offered in the English medium; communication, to be effective, should be in the regional language the language understood by over 95 per cent of the population. There are 14 regional languages, and universities have been hesitant to switch over to regional languages in view of the lack of books and a possible restriction of jobs within the region to graduates. No easy solution is yet in sight for this problem.

EDUCATION IN INDIA

...taking an inter-disciplinary approach to communication studies and applying the findings to socio-economic development. Also, there is an urgent need for an All India Centre of Advanced Study & Research in Mass Communication to co-ordinate the work of many institutions.

HEAD, DEPARTMENT OF JOURNALISM, OSMANIA

Industrial editing, depth reporting, etc., has spread the need for journalists to keep abreast of new trends in journalism. One of its major achievements is the publication of about twenty books on journalistic techniques and studies of the press, circulation, etc., which is a pressing need in India—that is, books based on Indian case studies and problems.

Further, Communication research and studies are pursued by scores of university departments of anthropology, psychology and sociology in areas relevant to their disciplines. But here again there is no coordination with the departments of journalism. For this, the departments of journalism, too, are partly responsible, as most of them are still confined to only imparting journalistic skills in undergraduate courses.

A new development is the emergence, since the late 1960s, of communication and extension training divisions attached to the agricultural universities. The noteworthy instances are the Uttar Pradesh

Communication training and research institutions also operate at the level of the Ministry of Information & Broadcasting Departments of the Government of India. The All India Radio has an Audience Research Unit for gauging the feedback. The Central Government's Press Information Bureau has a Research & Reference Division. The Song and Drama Division, the Directorate of Field Publicity, the Films Division, and the Directorate of Advertising & Visual Publicity are its other units. However, these are essentially government's operational departments; their main role is functional application, and not research and training of an innovative nature. Nevertheless, these units have become increasingly conscious of research and adoption needs in recent years.

A recent addition to the private sector is the founding in 1971 in Baroda, of the Operations Research Group (ORG)—a division of the Sarabhai Technological Development Syndicate. Though commercial in objective, the ORG is the first scientific media analysis and readership as well as consumer survey research organization that employs sophisticated data gathering and analysis techniques for the benefit of media buyers. There are also other commercial media and consumer survey and market research units attached to private advertising and marketing services which have their own institutional training programmes.

The Indian Institute of Public Opinion—a Gallup affiliate in New Delhi—also engages in public

opinion sampling and poll research techniques. Its sample surveys have covered a wide range—from the use of family planning methods to the percentage of smokers in selected areas! The IIPSO also offers training in public opinion survey methods.

Though the oldest in existence, the departments of Journalism of nearly a dozen Indian universities have so far been engaged in imparting education in journalism at the Diploma or Bachelor's Degree level with an outline knowledge of advertising, public relations and mass communication theory.

However, of late there has been an awareness of the need to start journalism courses by many universities, and to upgrade the existing courses at some. The Journalism Departments of the Universities of Calcutta and Mysore have since 1971 introduced Master's Degree courses, the latter with substantial course content in mass communication theory and research. Few more universities, notably Osmania, are slated to launch the Master's course in the coming years. But as of today there is no doctoral programme in mass communication per se though in the departments of psychology, sociology and anthropology, etc., research leading to the award of Ph.D. degree with communication as a related discipline has been in existence as early as the late 1950s. But it is only when the University Departments of Journalism initiate research and doctoral progress that the real use of research findings will have applied relevance as only these departments turn out journalistic practitioners and maintain professional co-ordination with the press. Most university journalism courses include a period of practical internship for the students attached to newspaper editorial departments, news agencies, advertising or PR units during the summer. In fact, it is internship that serves as a link between the university academic courses and the professional mass media institutions.

A welcome feature has been the decision by five Indian universities—Banaras, Marathwada, Karnatak, Madurai and Andhra—to del Journalism courses. There has also been an unprecedented rush of applicants to the journalism courses in view of the increase in employment avenues in advertising and publicity/public relations fields wherein there has been a large-scale expansion. India's industrial progress has accelerated the pace of advertising and public relations profession. The report of the Committee of Public

Undertakings has stressed the need to have public relations personnel attached to every public undertaking to foster better communication between the public and the institution.

The opening of communication and documentation centres at some teaching and scientific research institutions too, will require trained mass communication personnel.

While most of the Journalism and mass communication training institutions offer full-time, day courses, to meet the needs of employed personnel there are part-time evening diploma courses in journalism and mass communication in many cities. Of the evening courses offered the principal institution is the Rajendra Prasad Institute of Communication Studies, Bombay and its affiliates in eight cities. Though the evening courses of necessity cannot offer practical training they do serve as centres for promoting an awareness of the role of mass communication in a developing country especially among the employed people.

But there are problems faced by the University Departments of Journalism the chief among which is the dearth of duly qualified personnel in communication. Added to this is the lack of text-books adapted to Indian conditions and the general relegation of journalism courses as mere craft-oriented by the University academics and thus deprived from research and development grants from the University Grants Commission and other educational bodies endowed with funds at their disposal. The introduction of Master's courses and research-oriented studies should set right this mistaken notion before long.

In this context, the need for an association of mass communication educators has been felt for a long time. Though professional bodies for journalists, editors, publishers, advertisers, PR Personnel have actively functioned, a professional organization for journalism teachers has not been active. The Indian Association for Education in Journalism (IAEJ) formed in 1962 has been almost defunct. But in January 1972, a new professional association of Journalism Association (IAEJ) came into being as a result of the first All India Seminar on Journalism Education convened by the Indian Institute of Mass Communication, New Delhi.

The Seminar on Journalism Education stressed the need to organize refresher courses and summer schools for journalism teachers to help them orient

—next page

courses adapted to Indian conditions. It also underscored the need for preparation of text-books on journalism suited to Indian requirements.

The newly founded IJEA aims at furthering the development of professional training in journalism in keeping with the country's needs; and to co-ordinate the activities of institutions imparting Journalism education, in order to place journalism education on a systematic pattern all over India and to ensure sustained evaluation of training and research programmes. Thus the IJEA plans to serve as a coordinating body for journalism education and a forum for journalism teachers which has been lacking all these years.

Any assessment of Mass Communication Education in India will be incomplete without a reference to the role of the Film and T.V. Institute which caters to the audio-visual medium of communication. The Film Institute of India, Poona, started in 1961 offers diverse courses in direction, screen-play, writing, photography, acting and editing. The role of the film is significant in a country with only 30 per cent literacy as movies create the maximum impact in the absence of a nation-wide TV network in India. The Film Institute trainees have successfully competed in the commercial sector and won national acclaim. The institute has trained nearly 400 persons including Afro-Asian trainees. But the institute has so far not come up with a research programme on the impact of film as a developmental medium.

A new unit, the Television Wing of the Film Institute located temporarily in New Delhi was started in 1971. The TV Centre was set up with UNDP assistance and provides in-service training to personnel of All India Radio in TV programme production and technical operations. Though TV is now confined to New Delhi and its environs, before the end of 1972 TV stations will start functioning in Bombay, Poona, Srinagar, and Amritsar cities. When the TV Training Centre shifts to Poona in 1973 it will be able to train 200 persons annually. It is estimated that by the end of 1982 India will need 15,000 trained men to run her TV network. Thus the TV institute plans to expand its work to meet the increase in the demand for professional personnel to bring about the communication transformation in Indian society with greater speed and deeper impact than any other medium can.

Mention must also be made of the role of research journals that transmit new findings in communication methods and concepts. *Vidura*, Press Institute of India's bi-monthly journal of mass media is the most comprehensive one though it serves as a populariser of summaries of findings and not strictly a

learned research journal. The Institute of Mass Communication's *Communicator* quarterly though scholarly in content requires better publication and circulation methods. *Word* and *Alpha* journals from Rajendra Prasad Institute of Mass Communication and the *Press Council of India Review* tend to carry reviews or merely reproduce articles from foreign journals. The journal of Family Planning and other scholarly bulletins and periodicals of the Associations of Psychology, Anthropology and Sociology serve to disseminate findings which could be of relevance to communication educators. But their actual use is not widespread. Bulletins from the IIPD, occasional papers from NICD and research publications emanate from the Indian Council of Social Welfare, National Council of Educational Research Training, etc.

The nature of mass communication studies has to improve quantitatively. But the progress achieved during the last decade is by no means slight. At this stage it would be better to restate that systematic education and research in communication has had only a ten-year exposure in India, and it is still, confined to some notable national institutes.

The interdisciplinary approach is of even recent origin, and is being tried in less than half a dozen institutions such as the NICD, the Centre for the Study of Developing Societies of Jawaharlal Nehru University in New Delhi; the Council for Social Development of the India International Centre, Delhi, as well as the Indian Council of Social Science Research (ICSSR) sponsored studies at various universities.

The realization of mass communication education as an agent of social change has crystallized belatedly in this country. One could draw the inference that in the 1970s more institutions will initiate or upgrade communication education programmes preferably with an interdisciplinary content where insights of behavioural scientists will match the techniques and skills of mass communicators to play a catalytic function so vital for the developmental needs of India's emergent socio-economic order.

For a country with over 550 million people and nearly 90 universities in addition to over a dozen national institutes, there is a need to set up an Advanced National Centre for Mass Communication Research & Study to keep track of the work of different regional institutions. Otherwise, the ad hoc studies and scattered research and training schemes will not lead to a well-directed impact of communication on the national development policies and schemes.

THE VISVA-BHARATI LIBRARY

Dr. Bimal Kumar Datta

The Visva-Bharati Library was started in 1901 to complement Gurudeva Rabindranath Tagore's experimental school, and it began with a rich collection of books from his personal library. It has gradually developed like the Poet's school.

Till 1921, the library was known as the Bramahacharyasrama library; but with the inauguration of the Visva-Bharati university on 7th December, 1921, it was re-named as Visva-Bharati library. The library then had a collection of 7,400 volumes and was housed in a big room. Gifts of numerous books in different languages came in, as people all the world over began taking interest in this institution.

In order to stack new additions, the first floor of the building was added; the Maharaja of Pithapuram donated a sum to meet the cost of this construction.

In 1949 there were 4 departmental libraries besides the Central Library. The library was further enlarged by the donation of books by Late Pramatha Choudhury, Satis Chandra Bagchi, Byomkesh Chakravarty and others.

In 1951, Visva-Bharati became a full-fledged university. Since then, it has made rapid progress. The University Grants Commission sanctioned some substantial book grants for the purchase of books on Humanities and Sciences; and several other important private libraries were also added.

The present library has 9 Sectional and 14 Seminar libraries attached to it, having a collection of 2,60,000 books, 12,000 manuscripts and a good collection of gramophone records, microfilms, slides etc.

The new library building—the foundation stone of which was laid on December 23rd, 1966 by Smt. Indira Gandhi, Chancellor of the University—will

accommodate some 5,50,000 books and 250 readers at a time. The present library building can provide all facilities and amenities any modern library is expected to offer.

The new spacious building may be divided into three parts. The front portion is double-storeyed; and it accommodates the Current Periodical Section, the Reference Section and the Charging Section as well as the Union Catalogue on the ground floor. The Reading Room, the Department of Library Science, the lecture theatre and the exhibition hall are all housed on the first floor.

The rear part of the building is three-storeyed; it accommodates a general book collection, the rare collection, back volumes of periodicals, special collections and the bindery.

In between the two, the one-storeyed block is used entirely as a functional unit—it is a main link between books and readers.

At present, beside the Central Library, there are 9 sectional and 14 seminar libraries. The sectional libraries are attached to the Bhavana and Sadhanas and the seminar libraries are housed in their departments.

They are under the charge of the Principals and Heads of the Departments respectively.

Since approach to books is by the subject, these are arranged according to the subject-matter. Our library has adopted the modified Dewey's system of classification. The Arabic numerals 0 to 9 are employed for representing these classes of knowledge.

For the orientation of the reader, a visual chart, depicting our modified system is displayed in front of the stack. Besides, there are stack and shelf guides which are of immense help.

The card catalogue is the basic index to all the documents in the library.

There are two parts of the Catalogues:

- a) Alphabetical
- b) Classified

The card represents authors, joint authors, pseudonyms, editors, translators, title, reference, cross-reference and subjects. Author entry represents two types of authors—1) Individual 2) Corporate bodies (Companies, local bodies, government departments, societies etc.). Anonymous are listed under the title of the volume.

In the new building the library has organised a full-fledged Reference service with a good collection

Reference works like Encyclopedias, Dictionaries, Indexes, Handbooks, Maps and Atlases, Gazetteers, Census reports, etc. and a valuable local collection.

The library lends books for home use to members

The entire stack is open to all the members of the library except the following collections:—

1. Rare books
2. Thesis Collection and
3. Pamphlets

The system, inspite of misplacement and loss, is highly advantageous, as it permits students to browse through at leisure. This plays a very important part in the modern educational system.

Books of this section are kept in the Central Reading Room. The section contains the following type of books:—

- 1) Text books
- 2) Books recommended for supplementary study
- 3) Sets of Question papers
- 4) Important works of Standard authors

The growing thesis collection contains about 50 D. Litt. Ph.D. thesis and 50 Dissertations for M.A. and other examinations. They have been arranged in a separate section and the collection is at present housed in the room of the Librarian.

The university has a collection of 20,000 rare manuscripts in Bengali, Sanskrit, Oriya, and Tibetan.

The Children's section, named after the youngest son of Gurudeva Rabindranath, was inaugurated on 23rd December, 1965 for junior students of the school department. It is located in the Samindra Kuthir within the campus.

This university library is the only institution in this country which caters service to the university as well as to the public sector through its mobile section known as Chalantika. This is attached with the Palli Samagathana Vibhaga Sectional library, Sriniketan. This section sends books to villages through village workers and, for the last twenty-five years, it has successfully functioned.

UNIVERSITY OF JAMMU NOTICE

Applications on prescribed forms are invited for the following posts to reach the undersigned on or before November 25, 1972.

1. Readers (Rs. 700—1250) in:—

- (a) Laws (Specialization in Law of Taxation, Labour Law, Company or Business Law).
- (b) Economics (Specialization in Indian Economic Development with special Emphasis on Indian Agricultural and Economic Statistics).
- (c) Mathematics (Specialization in Topology or Functional Analysis).

2. Lecturers (Rs. 400—950) in:—

- (a) Laws (Must have diploma in Criminology).
- (b) Geology (with M.Sc./M.Tech. Degree in Geology/Applied Geology and specialization in Applied and Economic Geology).
- (c) Physics (Candidates must have specialized in either Nuclear and/or particle physics or Solidstate physics or Electronics or spectroscopy).
- (d) English.

For full details and prescribed forms, please apply by sending a Crossed Postal Order of Rs. 1 - cashable at Jammu Post Office in favour of the Registrar, University of Jammu, Jammu.

(K.K. GUPTA)

Registrar.

M. S. University of Baroda Notification No. 17

Applications in the prescribed forms are invited on or before 20th November, 1972 for the temporary post of Director of Training and Placement in the Faculty of Technology and Engineering in the grade of Re. 1 - cashable at Jammu D.A., H.R.A. as per University rules. Qualifications: (a) Mas.

ter's Degree in Engineering. (b) 5 years teaching experience in a Degree Engineering College or in any other recognised institution of equal status. (c) Atleast 3 years experience in a position of responsibility of handling practical training programmes for students or technical persons working in industries and their placement. Preference will be given to a candidate possessing good personality.

Prescribed application forms, available from this Office on pre-payment of Re. 1/- by means of a Crossed Postal Order be sent to this office completed in all respects alongwith the Crossed Postal Order of Rs. 7-50 on or before 23th November, 1972.

K.A. AMIN
Registrar

M. S. University of Baroda
Notification No. 19

Applications in the prescribed forms are invited on or before 11th December, 1972, for the following posts in the new Department of Continuing Adult Education of this University. Prescribed application forms will be available from the undersigned on pre-payment of Re. 1/- by means of a crossed postal order for each post.

1. Reader in Continuing Adult Education (One post):

Scales: Rs. 700-50-1250: Essential Qualifications: (i) At least a Second Class Master's Degree in Adult/Continuing Education. OR A Second Class Master's Degree in Social Sciences, Behavioural Sciences, Natural Sciences or Humanities with a doctorate or some published work in Continuing Adult Education. (ii) About 5 years' teaching or research experience in a University or College or a related institution of repute. (iii) Candidates with academic background in education, social work and psycho-

logy and with experience in curriculum development, educational planning, evaluation and administration are preferred.

Responsibilities include teaching, research, program development, Coordination and others as assigned by the Head of Department.

2. Lecturers in Continuing Adult Education: (Three posts)

Scale: Rs. 400-40-800-50-950.

Essential Qualifications: (i) At least Second Class Master's Degree in Adult/Continuing Education or a Second Class Master's degree in Social Sciences, Behavioural Sciences, Natural Sciences or Humanities. (ii) About 2 years' teaching or research experience in a University or College or a related institution of repute. (iii) Candidates with background in Social Work, Education, Commerce, Home Science, Engineering & communications are encouraged to apply. (iv) Ability and experience in field work, data collection, data analysis, report writing, program planning and materials development preferably pertaining to Adult/Continuing Education. (v) Knowledge of

Gujarati preferred.

Responsibilities include teaching, research, Co-ordination program development and others as assigned by the Head of Department.

Note:—The qualifications stated herewith of all above four posts may be relaxed in case of candidates who are found eminantly suitable.

The posts carry D.A., H.R.A., P.F. and Gratuity benefit as per University rules.

The application form should be accompanied by a Crossed Postal Order of Rs. 7-50 should reach the Registrar on or before 11th December, 1972.

Applicants when called for

interview will have to come at their own expense.

Registrar

BANARAS HINDU UNIVERSITY

Corrigendum to Advertisement No. 16/1972-73

A. The post of Office Assistant in the grade of Rs. 150-10-290-15-335-EB-15-380 (Item No. 19) Department of Zoology has been treated as cancelled.

B. The grade for the post of Technician (Electronics) (Item No. 20) Department of Zoology is Rs. 210-10-290-15-320-EL-15-425 and not Rs. 250-15-400-EB-15-475. No T.A. is payable to the candidates if called for interview. Additional application fee received will be refunded.

M. S. University of Baroda
Notification No. 18

Applications in the prescribed forms are invited for the following posts in the Faculty of Arts, so as to reach the undersigned on or before 9.12.1972.

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K.A. Amin
Registrar

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SOVIET TEXT-BOOKS FOR INDIAN STUDENTS

The Joint Indo-Soviet Textbook Board was set up in January, 1965. Since then, a number of Soviet books used in their universities have been printed in English with the approval of the Government of India and made available for sale to Indian students. These books which are in the fields of Science, Technology, Medicine and Agriculture, have been a significant addition to educational material available in India.

In the Protocol signed in October 1971 a review was made of the working of the Joint Board and new arrangements agreed upon. I have every hope that this programme of intellectual collaboration between the Governments of USSR and India will rapidly grow in its size and scope to encompass the best Soviet textbooks in all the important fields of Science and Technology.

T. P. SINGH,
Secretary
Ministry of Education & Social Welfare
Government of India, New Delhi.

The majority of the books, listed below, are published by "Mir" publishers, Moscow.

"Mir" Publishers publish Soviet scientific and technical literature in English. Titles include text books for universities, technical schools & vocational training, literature on the natural sciences & medicines including textbooks for medical schools and schools for nurses; popular science and fiction.

The authors of "Mir" publishers' books are leading Soviet scientists, engineers in all fields of science and technology and include more than 40 members and corresponding members of the USSR Academy of Sciences. Skilled translators provide a high standard of translation from the original Russian.

Many of the titles already issued by "Mir" publishers have been accepted as textbooks and manuals at educational establishments in India and other countries.

149 latest textbooks on science, technology, medicine, biology and other disciplines have been approved for Indian universities and schools. 75 titles of Soviet textbooks have been recommended for reference reading. Both kinds are recommended for translation into Indian languages.

This programme is directed by the Joint Indo-Soviet Textbooks Board composed of representatives of the governments of India and the USSR. The Education Secretary, Government of India, is the Chairman. The textbooks are printed in the Soviet Union. Each book is evaluated by Indian scholars to determine its suitability for Indian educational institutions before it is approved by the Ministry of Education of India.

The retail prices of the titles are reasonable and within the reach of the students.

Most of these and many other titles are readily available with the leading booksellers all over country and positively with the importers of Soviet publications in India. The list of main distributors appears at the end.

It is planned in future to publish Soviet textbooks not only in English language, but also in Hindi (translated from original Russian or from English).

Some of the textbooks in Hindi will be published in Moscow but the main quantity of titles in Hindi and some other Indian languages will be published in India under the sponsorship of Ministry of Education and Social Welfare of India.

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Chief of Department of
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Equations of Mathematical Physics by S.K. Godunov.
Handbook of Elementary Physics by Koshkin N.I. & Shirkevich M.
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Resistance of Materials by M. Movkin and A. Izraelit.
The Atoms from A to Z by K. Gjadkov.
The Physics of Rocks by Y. Rzevsky & G. Wovik.
The Structure of atoms and molecules by Kondratyev V.
Theoretical Physics by Landau & Lifshits.
Theoretical Physics by Kompaneyets A.
Theory of Elasticity by Filonenko-Borodich M.

CHEMISTRY

Application of Colouring Material by Uelnikov and Moriganov P.V.
A Handbook of Problems & Exercises on Chemistry by I.L. Goldfarb and U.V. Khodakov.
Fundamentals of Petroleum Chemical Technology by Below.
General Chemistry by Glinka N.
Organic Chemistry by Pavlov B. & Terentyev A.
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Qualitative Analysis by Alexeyev V.
Quantitative Analysis by Alexeyev A.
Theoretical Principles of Organic Chemistry by Reutov O.
107 stories about Chemistry by Vlasov.

MATHEMATICS

Concrete and Concreting by Tretyakov.
Higher Algebra by A. Kurosh.
The Nature of Mathematical Knowledge by Ruzavin.
Photometric Analysis by Babko and A.T. Pilipenko.
Problems and Exercises in mathematical Analysis by Baranenkoy.
Problems in Mathematical Analysis by Demidovich B.
Problems and Exercises in Integral Equations" by Krasnov and others.

GEOLOGY

A Course of Mineralogy by Betekhtin A.
A short course in Geological Survey Work by G.C. Misaser and N.E. Eremin
Economic Mineral Deposits by Dorokhin & others.
Essentials of Crystallography by Flint Y.
Fundamentals of the Geology in USSR by M.N. Smirnova.
General Geology by Luge O, Lanova M. & Lebedeva N.
Interaction of Sciences in the Study of Earth by V. Baranov.
Physical Geology by Gorshkov.

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Elements of Applied Theory of Elastic Vibrations by Panovko Y.
Fundamentals of Engineering Mechanics by Levinson L.
Lectures in Analytical Mechanics by Gantmacher P.

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Electrical Engineering Materials by Koritsky.
Electrical Equipment for Generating Stations and Substations by Baptidanov.
Electrical Measurements by Popov.
Electric Arc Welding by Shebeko.
Electric Drive by Chilikin.
Electric Power Stations-Equipment of Turbines and Chemical Department fitters-Guide by Engel-Kron.
Electric Slag Welding by Paton B. (Ed.).
The Electric Welder (A Manual) by Tsegelsky V.
Fundamentals of Electricity by F. Evlokimov.
Industrial Power Supply by Fyodorov A.
Laboratory Practice in Radio by K. Kazinik.
Maintenance of Electrical Equipment by Gelberg & Pekelis.
Maintenance and Repairs of Industrial Electrical Equipment by Atabekov.
Power Station Boiler Room Equipment Fitters Guide by Tseshkovsky A.
Power Stations and Substations by Baptidanov L. & Tarasov V.
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Heat Treatment — A handbook by Kamenichny I.
Heat Treatment of Metals by Zakharov.
The Melting of Cast Iron and Non-ferrous Alloys by Lipinsky.
Metallurgist's Handbook by A Group of Authors.
Metal Process Engineering by Polukhin & others.

Production of Ferro-alloys by Riss A. & Khodorovsky V.
Sheet Metal Work by Medvedyuk.
Stress and Strain in Metal Rolling by Tselikov.
Theory of Metallurgical Process by Volsky and E. Sergievskaya.

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Elements of Lathe Work by Brushtein.
Engineering Drawing by Bogolyubov.
Fits, Tolerances and Engineering Measurements by Tarasevich & others.
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Rolling Practice by Potukhin & others.
Theory of Machines by Dobrolubov.
Traktors by Gurevich.

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Mine Ventilation by A. Skochinsky and V. Komarov.
Technology of Production and Repairs of Mining Instruments by Shilov.

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Erection of Prefabricated Reinforced Concrete Structures by Besser and Proskurnin.

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Fruit Biology by Kolesnikov V.
Hydrogeology of Irrigated Lands by Siline-Bekchourine A. (Dr.).
Reclamative Soil Science by Plyusin I.

HISTORY

A History of Africa (1918-1967).

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The Basic Principles of Dialectical and Historical materialism by A. Spurkin and others.
Fundamentals of Dialectical Materialism by G. Kursanov & others.
Historical Materialism by Chesnokov.
Historical Materialism Basic Problems by G. Glezerman, G. Kursanov & others.

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Fundamentals of Soviet Law by Romashkin.

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Problems of Soviet School Education by Makarenko A.S.

LEARNING RUSSIAN

Russian Practical Grammar with Exercises by Pulkina I. & Zakhava E.

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Atlas of the Operations on the Rectum and Colon by Ryzhikh A.
Atlas of Surgical Anatomy of the Lower Extremity (v. I) by Kovanov.
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Corneal Transplantation in Complicated Leukomas by Pushkovskaya.
Drugs and Medicine Preparations by Ministry of Health (USSR).
General Biology by Nekrasov.
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Mechanical Suture in Vascular Surgery by Androsov P.
Microbiology by Pyatkin K.
Open Heart Practice by Bornatsky I. and others.
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Psychiatry by Portnov & Fedorov.
Resection and Plastic Surgery of Bronchi by Petrovsky B.
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State Pharmacopia in the USSR-IX by Ministry of Health (USSR).
Textbook of Biology by Karuzina.
The Secrets of Cybernetics by Kasatkin & A.F. Vearlan.
The Word as a Physiological and Therapeutic Factor by Platonov.

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Animal Travellers by I. Akimushkin.
The Mystery of the Earth's Mantle by Malakhov A.
The Origin of the Earth and Planets by Levin.
Psychology and Space by Gagarin & Lebedev V.
Relativity and Man by Smilga.
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Space and Time Conception by A. Leonov & V. Lebedev.
The Third World (Problems and Prospects) by Ye. Zhukov and others.
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REFERENCE BOOKS

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1. Antennas by Markov G.
2. Industrial Radiology — Flaw Detection by Rumyantsev S.

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3. Laboratory Exercises in General Chemistry by Semishin V.
4. Textbook General Chemistry by Nekrasov B.

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5. A Brief Course of Analytic Geometry by Yefimov N.
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7. Higher Mathematics by Suvorov I.
8. Problems in Analytic Geometry by Kletenik.

GEOLOGY

9. The Exploitation and Development of Oil and Gas Deposits by Muravyov I. & others.
10. Fundamentals of Geology by Obruchev V.
11. Prospecting for Minerals by Kitaisky Y.D. (compiler).

CYBERNETICS

12. Thinking machines by Gutenmacher I.

ELECTRONICS

13. Electronics in Industry by Kaganov I.

ELECTRICAL

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15. Electric machines (in 2 parts) by Kostenko & Piotrovsky.
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18. Mine Electrician by Mikheyev Y. & Faibisovich.
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40. Safety in open Cost Mining by N. Melnikov & M. Chesnokov.

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42. Ancient History (for school classes) by Korovkin.
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44. A short History of the USSR (part I).
45. A short History of the USSR (part II).

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66. Exercise in Russian Syntax Complex gova & Makarova.
67. Exercise in Russian Syntax—The Simple Sentence by Belevitskaya —Khalizova V.S.
68. Learning Russian (in 4 parts) by Potapova N.
69. Lexicology and Phraseology by Sazonova.
70. Russian by Wagner V.N. & Ovsienko Y.G.
71. Russian as we speak it by Khavronina S.
72. Russian-English Scientific and Technical Dictionary by Zimmerman G.
73. The Russian Verb — Aspects and Voice by Vilgelminina A.

POPULAR SCIENCE

74. What is the Theory of Relativity by Landau & Rumer
75. In the words of Isotopes by Mezentsev.

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The first national seminar on Correspondence Education was jointly organised by the Indian University Association for Continuing Education and the University of Mysore from October 26 to 28th at Mysore. This afforded an opportunity to the representatives of participating universities to assess developments in this newly emerging sector of education, and to develop a perspective in regard to how this sector is likely to grow in the coming years.

As many as 11 universities in the country now have correspondence education programmes. The oldest of these programmes is now ten years old, and the newest started at the beginning of the current academic year.

Some universities started correspondence programmes as a means of reducing the pressure on enrolment in full-time classes. Some even seem to have discovered in correspondence courses an easy source of revenue. The fact that the beneficiaries of these pro-

EDUCATION BY POST

grammes may be such disadvantaged sections of the community, as would otherwise have to go without the advantages of university education, has usually not been kept in mind. Without going into the larger question of the financing of higher education, it should be self-evident that it would be invidious to expect correspondence courses to be self-supporting, and even a source of profit, while expanding large sums on full-time, traditional programmes. The improvement of the quality of correspondence education would entail considerable expenditure, and this should be reckoned as a legitimate charge on public funds.

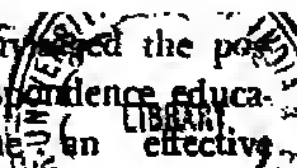
The seminar expected a reasonable allocation in the Fifth Five-Year Plan for programmes of continuing education including correspondence courses. That the University Grants Commission is contemplating the establishment of a material institute for research and co-ordination in regard to correspondence programmes is welcome. It would serve as an accreditation agency for the work of different agencies scattered all over the country, to be a clearing house for ideas.

agent of change. The clientele of correspondence courses does not consist mainly of the overflow from full-time, traditional colleges. A considerable section of the enrolment consists of highly motivated students, who could respond to more exacting challenges, than are offered by the generally prescribed curriculum. Such ambitious programmes, that could provide new dimensions to the existing curricula, could be accepted by the universities as alternatives to those generally prescribed. Similarly, correspondence programmes, supplemented by radio broadcasts and contact sessions, could be a way of trying out innovation and experiment in methods of teaching. They also provide, through the continuing assessment of students' work, opportunities to try out improvements in examination procedures. All these would be possible only if the universities begin to look upon correspondence programmes as not only a way of expanding education but also as a way of improving its quality. In promoting such a change of attitude, the material institute envisaged above, could be of great assistance.

TO OUR READERS

Are you uptodate with your insurance, driving licence and such other matters? If not, we will forgive you. But we cannot forgive you, if you are not uptodate with your subscription to University News.

The seminar envisaged the possibility that correspondence education could become an effective programme as a necessary evil.



and as an academic 'poor relation'. This would explain the reluctance of many universities and colleges to place at the disposal of correspondence students such basic facilities as the use of library and classroom accommodation for occasional contact programmes. The seminar would recommend a more enlightened attitude.

As a preliminary to effecting needed changes in the existing situation, the seminar recommended that the University Grants Commission should undertake a research study of the state of correspondence education in India at present. It would further recommend that a joint committee of the Commission and the Inter-University Board should advise the universities in regard to the lines along which facilities for correspondence education should be developed in the country. Such a committee might also examine the question whether correspondence education should continue to be organised as part of the general programme of existing universities, or should be organised separately as autonomous organisations, either regional or as units of a network run by a central agency.

A number of universities have started correspondence education programmes. We have now reached a stage when it is necessary to ensure that there is no needless duplication of programmes. Such duplication would mean the diversion of scarce resources that should be spent on improvement of the quality of the service given, and for research into ways of improving such quality. As a general rule, there should be only one agency for correspondence education for any given level of university studies in a region; perhaps, the universities in a region could collaborate to administer the pro-

grammes.

Correspondence programmes have made insufficient use so far of the radio, which could be a potent means of relaying correspondence course programmes. A closer liaison than exists at present between the university correspondence education agencies and All India Radio stations should be developed. Quality programmes broadcast through the radio may be one way of developing non-formal ways of education, and it is reasonable to expect increasing enrolment as a result of such broadcasts.

Owing to continued emphasis on the self-supporting nature of the correspondence programmes, there has been no provision for student aid, fee concessions, or scholarships for those enrolled for such courses. The idea that all such students are employed, and can afford to pay fees and meet other expenses, is not correct. Considering the per capita expenditure that is made from public funds on full-time students, some provision should be made for the poorer students, who enrol themselves for correspondence courses. This should include assistance to students belonging to Scheduled Castes and Scheduled Tribes and other disadvantaged sections of the community.

While railway concessions have generally been given for correspondence course students to attend contact classes, there have been difficulties. Considering the low unit-cost that will be involved even after the suggestions of this seminar are accepted, the authorities should consider extending the same concessions to correspondence course students as are available to regular students.

The seminar recognised that while there was a demand for

courses at the post-graduate level by correspondence, the difficulties involved should not be underestimated, and the greatest care should be taken to ensure that the standards achieved are in no way inferior to those achieved with full-time students. It may be advisable to limit such programmes to universities, which are very well staffed and have, over the years, maintained and developed a tradition of quality both in teaching and research. So as to ensure that there are no serious deviations from these objectives, consultations among universities at the inter-university level are advisable. From the evidence available, it appears that basic facilities such as adequate books and other reading material are not being provided; and, instead, excessive reliance is being placed on "lessons". This is unsatisfactory, and is bound to lead to devaluation of standards at the postgraduate level. The seminar, therefore, proposed that if and when postgraduate courses are organised through correspondence, provision of a certain number of basic texts by the university should be regarded as imperative.

Since the success of the system of correspondence education would ultimately depend upon the quality of the teachers operating the system, special attention needs to be paid to the system of recruitment, training and their working conditions. While the Institutes must have a core staff of their own in each subject, this category of staff as well as the other teachers must continue to be involved in active class-room teaching. One alternative could be to draw teachers from the teaching departments on deputation. Another would be to have joint appointments in the

(Continued on page 5, col. 1)

(Continued from page 2)

aching departments and correspondence courses. Whatever method is devised every care must be taken to ensure that talented teachers are drawn and also retained in this fast-growing sector of education.

The seminar felt greatly concerned by the absence of study centres (with adequate provision of text-books and other necessary material) for students taking up correspondence education. Neither the community nor the educational institutions already functioning even in the universities running correspondence courses, seem to attach due importance to the institutional provision for such centres. The seminar recommended that a wide network of such centres be located in existing educa-

tional institutions.

It is basic to the success of correspondence education programmes that students regularly submit their work in the form of response sheets to be assessed, and commented on in detail, by teachers. It should be recognised that without the regular submission and assessment of student response sheets, correspondence education will achieve no objective higher than could be achieved by the mere distribution of printed material or the admission of non-collegiate students to examinations.

It should be recognised that lesson-writing calls for special skills that the faculty should be encouraged to cultivate; with a view to ensuring this, it is advisable to have a research and planning unit attached to each institute.

MRS. GANDHI TELLS STUDENTS TO KEEP AWAY FROM CONTROVERSIES

New Delhi, October 31—At a function at the Sardar Patel Vidyalaya to celebrate his 97th birth anniversary, Mrs. Indira Gandhi, the Prime Minister, advised the student community to stay away from language and religious controversies, and they had a vital role to play in shaping the economy and planning of the country as they were tomorrow's leaders. She voiced concern at the involvement of vested interests in student affairs, and created disturbances in the country, hoping that they would not be swayed by such elements. Interestingly, the Prime

(Continued on page 6, col. 3)

A REGIONAL ASIAN SERVICE UNDER STUDY

A feasibility study is now taking place in 11 Asian countries into the creation of a regional service to support national vocational training schemes. It is being conducted jointly by the International Labour Organisation (ILO) and the United Nations Development Programme (UNDP).

A three-man mission after completing the first leg of the study in Thailand arrived in New Delhi on November 2, 1972. After a stay of about seven days the mission left for Indonesia. The mission will also visit the Philippines, Japan, Korea, Malaysia, Singapore, Sri Lanka, Pakistan and Nepal for further discussions with Governments and institutions in the Voca-

tional training fields. It will report its findings to UNDP and ILO in December.

The proposed regional service would be designed to support national vocational training schemes—which have been set up in most Asian countries often with ILO and UNDP assistance—by pooling experience and providing specialised services and information in such fields as planning, organisation, cost reduction, training materials and training methodology. The need for such a facility has been voiced at several ILO and other Asian meetings, including the 1971 Conference of Asian Labour Ministers.

Improvement and expansion of

vocational training is viewed as a priority need in most parts of Asia, given the demand for skilled manpower and the pressure of rising unemployment. A key emphasis of the proposed regional service would be to reinforce links between training schemes and national employment and manpower needs.

A regional centre providing services of the type envisaged for Asia has been operating successfully for several years in Latin America with ILO support.

The members of the feasibility mission are Messrs D. G. Quirolgico (UNDP), Ishwar Chandra and H. F. Dieterich (ILO).

GOING ABROAD to take up service

(This rail coach is sailing off to Europe to provide communication facilities to thousands of people there. Textile machines, made in India, are going to Africa; countries, railway wagons and coaches go to Iran, Thailand, South Korea . . . Recently, Yugoslavia has placed an order for the supply of 3600 wagons estimated at Rs. 375 million.

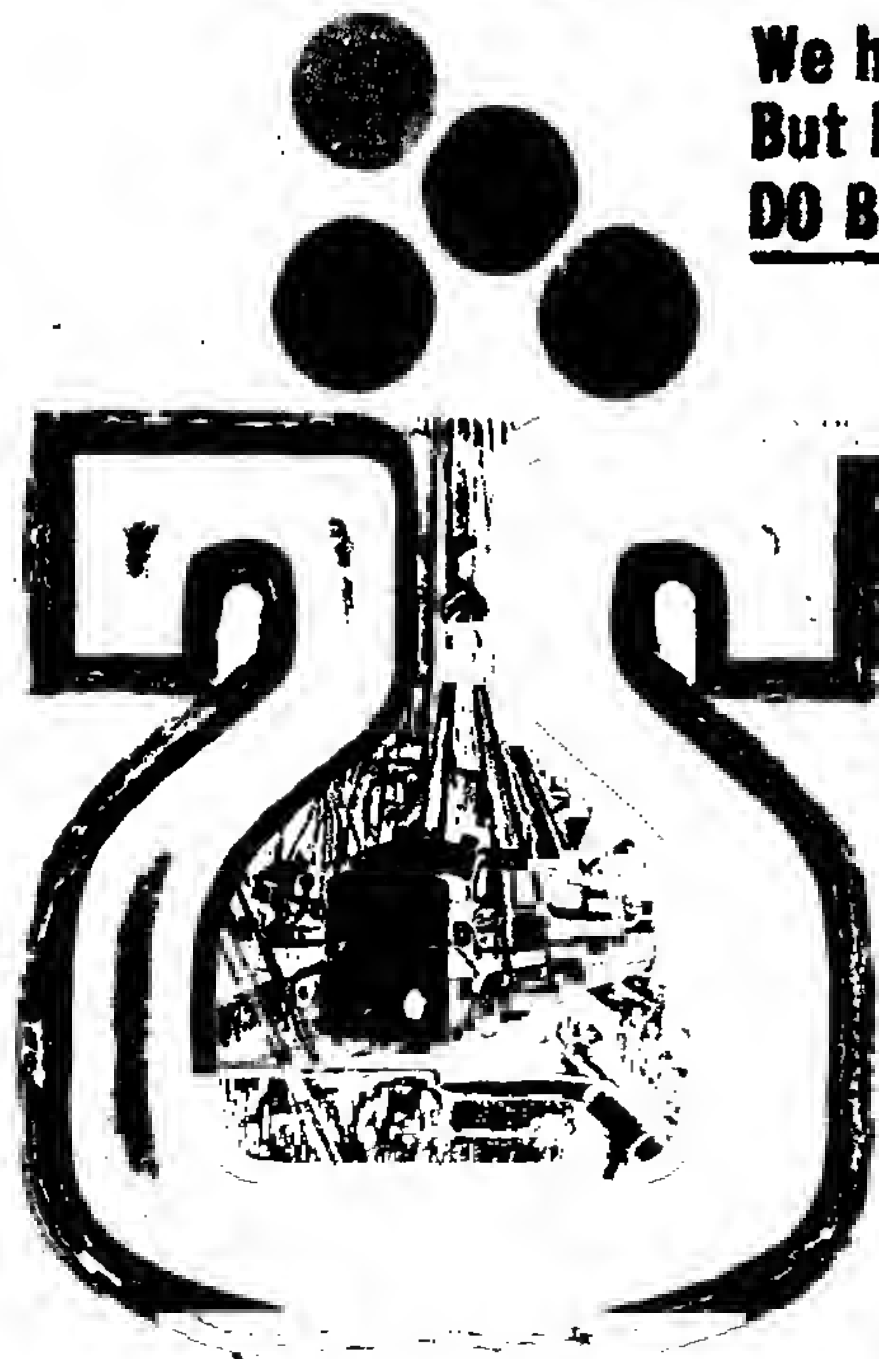
'MADE IN INDIA' is a label that is gaining prestige abroad, day after day. The ships that touched our ports twenty-five years ago used to unload blades and soaps for which we had depended on foreign manufacturers.

India now makes a variety of sophisticated engineering goods and electronic

equipment for the choosy customers in far-off lands. Our scientists at Trombay manufacture heavy water for atomic energy establishments abroad. India's foreign trade has now gone up to Rs. 34190 million - four times more than in 1947.

Indian technology and know-how are expanding. Developing countries are now making use of our consultancy services. 88 joint ventures have been set up in Africa, Latin America and countries in Asia, besides Europe.

**We have done well.
But let us
DO BETTER.**



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I'll be
a doctor



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NATIONAL SAVINGS ORGANIZATION

COLLEGE SCIENCE IMPROVEMENT PROGRAMME OPENS IN BOMBAY

The All India Association for Christian Higher Education organised, at the Wilson College at Bombay, an All-India Consultation on College Science Improvement Programme from November 1 to November 5.

The programme was inaugurated by Dr. S. Krishnaswamy, Head, Dept. of Biological Science, University of Madurai, under the Presidentship of Prof. T. K. Tope, Vice-Chancellor of the University of Bombay.

Prof. Tope was beaming with wit; he observed that he felt somewhat like the Prince Consort Duke of Edinburgh: "While moving his hand on his bald head when he inaugurated a conference on Natural Fibres, he had remarked: 'I do not know whether I am entitled to inaugurate the conference on natural fibres when I myself have no ability to grow my own!' Prof. Tope said that he was a student of the Classics but was called upon to inaugurate a scientific conference: "Believe me, my only claim in accepting this invitation is a sincere realization that, in this age of science and technology, the stature of a nation will only be measured by the level of its scientific achievements." This set the tone for the conference which followed.

About the project on hand, he said that it was unique in the sense that "it will teach the very fundamentals of higher education—the under-graduate teaching."

According to Prof. Tope, the education process consisted of three components, two living and one non-living. The living components were the teacher and the student;

the non-living the curriculum: which, with the inter-action of the first two, would achieve a living significance. This, then, was the basic triune of the higher education project known as COSIP.

What is "Relevance"?

The word, "relevance", according to Prof. Tope, "is a multiordinal term—whose meaning changes in the context in which it is used: when used in relation to curriculum it must be examined with reference to the different contexts in which that word is used."

Today's university was no more living in its glorified isolation, and the society demanded that a certain definite proportion of professional men, such as engineers, architects, teachers, etc., would have to be provided by it. In other words, the society would demand that the curriculum should be vocationally oriented.

Where students are concerned.

On the other hand, the student felt that, in order to allow "a full flowering and completion of his personality", it must prepare him for actual practical life.

In addition to these, there was yet another factor that would effect science curriculum: it must cater to those undergraduate students, who studied science and would like to be teachers or something like it, and those who took it up merely as a preparation for professional courses, either in medicine or in engineering.

The curriculum for science was the same for both today. According to Prof. Tope "it is only through an eclectic approach that a relevant curriculum can be constructed." For an approach of this kind, it had to be experimental and have at the same time idealistic relevance.

In various sessions, a symposium on "Modernisation of Science Education," in which Dr. B. Ramachandra Rao (Teaching Methods); Dr. H. J. Arniker from University of Poona (Place of Laboratory and Workshop in Science Education); Dr. Venkataraman from Tata Institute of Fundamental Research (Research Orientation in Science Education) and Dr. Edwin Harper, Bureau of Educational Research, Ewing Christian College, Allahabad (The Evaluation and Assessment—a Practical Exercise) took part.

On the second day, Dr. Rao of IIT, Kanpur, read the paper (Syllabus and Textbooks). In the fourth session, Dr. J. P. Naik, Member-Secretary, Indian Council of Social Science Research, New Delhi, spoke on Science Education and the Community.

On the third day, the Position Paper by Dr. R. D. Deshpande, Jt. Secy, UGC, came up on the subject of "Procedures for acquiring equipments and books". In the afternoon of the 4th November, there was a Science Exhibition and Instruments Exhibition, at St. Xavier College, Bombay. The Valedictory address was read by the Director, IIT, Bombay, Dr. P. K. Kelkar.

(Continued from page 5, col. 3.)

Minister recalled her student days, when she used to visit Harijan basties along with her friends to improve their living conditions. She felt that students could do a lot about the development of villages, as urban development alone was no index of India's progress.

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NEWS**

BRAIN-DRAIN AFFECTING ECONOMIC, SOCIAL GROWTH

NEW DELHI, Nov. 7.—The Colombo Plan consultative committee said today that brain-drain from several member countries of the region was affecting their economic and social growth.

Though "brain drain" could not be quantified, the committee noted, its adverse impact could be minimised "even the cooperation of talent-gaining countries".

Speaking in the committee today, Mr. I. K. Gujral, the alternate leader of Indian delegation, said the Colombo Plan countries, which were dedicated to banish poverty would be greatly handicapped, if the cream of their intelligentsia were attracted by the advanced countries.

One of the suggestions made was that developing countries should undertake adequate institutional changes which would encourage the intellectuals, scientists and technologists to serve their own country or the region.

A special sub-committee of the Colombo Plan, chaired by Mr. M. A. Mohamed of Sri Lanka, has suggested in a report that talent-gaining countries may assist the losing countries by adopting suit-

able manpower programmes and also by exploring types of technical assistance to help minimise brain-drain from developing countries.

As a measure to discourage the flow of talent from Colombo Plan region to developed countries, the committee has suggested the setting up of common facilities of regional centres for research and development (R and D) in the fields of engineering, medicine and basic science.

Establishment of a few regional centres of excellence and R and D laboratories and a "Pool" of professionals to take care of returnees have been considered by the committee as vital to control the one way flow of "brains".

Because "push-factors" like unemployment, low salary and lack of incentives drive talented people away, the committee has asked the talent losing countries in the region to reorient their national development programmes toward employment objectives.

(Continued on page 9, col. 3)

EVERY SIXTH INDIAN IS A STUDENT

New Delhi, Nov. 6.—One among every six persons is a student in the country, according to official figures.

The number of students in the country according to Education Ministry is nearly 90 million as against the total population of 550 million.

Students in primary schools number 63.1 million and those in universities to 2.54 million.

Since Independence, enrollment of students has gone up by about 350 per cent in the primary stage; by 650 per cent in the sixth to the eighth classes and 900 per cent in the ninth to the eleventh classes as also at the university stage.

NATURE BUILT THIS REACTOR A MILLION YEARS AGO!

A UNI report says that a nature-built reactor, which might have functioned for a million years, has been discovered in Gabon, North West Africa.

The story goes that the discovery of the reactor was quite incidental. A specialist working at the French uranium enrichment centre at Pierrelatte detected an anomaly in the uranium sample he got from a deposit at Oklo, Gabon. He found that it contained only 0.71 per cent content of the uranium-235 isotope, which is found in "Natural" uranium. A careful investigation showed that the anomalous batch of uranium had come from the Oklo deposit. Then came a preliminary test on the site, which proved that the uranium in some sections of the deposit was not natural.

A further investigation disclosed that deposits of uranium sample containing the varying amount of uranium-235 were present.

Various elements, never before found in nature, such as neodymium, also came to light.

The nuclear physicist, who conducted the investigation, came to the conclusion that this particular section of the deposit was a natural reactor, which had ignited millions of years ago when natural uranium was at a naturally enriched stage.

According to Dr. Perin, indications are that the conditions obtaining 1700 million years ago at Oklo were exactly suitable for a natural nuclear reaction.

ALL INDIA EDUCATIONAL MEET AT B.H.U. IN DECEMBER

Varanasi, Oct. 18: An All-India Educational Conference will be held at the Banaras Hindu University in December next. It was decided on October 15 at a meeting of Deans of various faculties of the University presided over by the Vice-Chancellor, Dr. K. L. Shrivastava.

Dr. Vibhuti Narain Singh, the former Maharaja of Banaras, will be the chairman of the reception committee.

INTERNATIONAL SEMINAR ON TECHNOLOGY TRANSFER

New Delhi, Nov. 18, 1972.—President V. V. Giri will inaugurate the International Seminar on Technology Transfer beginning from December 11, 1972 at Vigyan Bhawan. The Seminar will conclude on December 13, 1972. Experts from nearly 40 countries will participate in the Seminar.

The Seminar has a great significance in view of the efforts being made by India and other developing countries to promote self-reliant economic and social growth through scientific and technological cooperation.

Sponsored by the Government of India, the Seminar is being organised by the Council of Scientific and Industrial Research with the cooperation and assistance of the United Nations Industrial Development Organisation (UNIDO). The UNIDO Director-General, Dr. Abdel Rahman is specially coming to Delhi to attend the Seminar.

The three aspects to be discussed will be concerned with technology transfer from advanced to developing countries, in-between the developing countries, and from research laboratories to industries within the developing countries. The report of discussions and recommendations of the experts will be adopted at the concluding session for follow-up action.

The processes of technology transfer are complex and pose various problems which are often disadvantageous to the receiving countries. These have been widely

debated at various international meetings. India has been consistently projecting the point of view of the developing countries at various international forums like UNCTAD II and III and other United Nations Agencies like UNESCO and UNIDO. The coming Seminar is yet another step to bring scientists, technologists and other experts from advanced and developing countries together to discuss and suggest practical measures to overcome problems of technology transfer in the interest of national reconstruction and self-reliance.

The Government of India Steering Committee for Seminar is headed by Dr. Y. Nayudamma, Secretary to the Government of India and Director-General, Scientific and Industrial Research. Mr. Baldev Singh, Scientist-in-Charge, Research Coordination and Industrial Liaison, CSIR is the Executive Secretary of the Committee. The members include Mr. A. J. Kidwai, Secretary, Department of Science and Technology, Mr. Mohd. Yunus, Special Secretary, Ministry of Foreign Trade, Mr. Abid Hussain, Joint Secretary, Ministry of Industrial Development, Mr. K. G. Krishnamurthi, Secretary, C.S.I.R., Mr. A. Rahman, Scientist-in-Charge, Research Survey and Planning Division, C.S.I.R., and Dr. J. C. Srivastava, Scientist, C.S.I.R.

STUDY GROUP SUGGESTS TRAINING FOR EDUCATION OFFICERS

Sometimes ago, the Asian Institute of Educational Planning and Administration organised a seminar to lay down the role, function, recruitment and training of Dis-

trict Education Officers; it had suggested the setting up of a study group to go into the question. Upon the conclusion of the seminar, the study group submitted its report: a comprehensive training programme for district education officers, particularly because they were key educational functionaries in the states.

The main recommendations relate to the training of State Education Service probationers and in-service training for senior education officers. The training so imparted should suitably be designed for the D.E.O., who is not only to function as the traditional administrator of education but also as an educational planner and professional leader.

For probationers, a sandwich programme has been recommended, which should last nine months as a foundational course at an university faculty, followed by six months' practical training in the department and culminating in a three-month course at the National Staff College.

The group has also recommended career cells in directorates of education in various states, urging cross-fertilisation of administrative and supervisory experience, with teaching-training research experimentation.

One other recommendation is that the National Staff College should develop a strong documentation centre. It should lay a special emphasis on educational administration in different States of the Asian region, and that it should act as a clearing house for teaching materials available both in India and abroad.

SCIENCE AND TECHNOLOGY PAVILION PORTRAYS INDIA'S EFFORTS TOWARDS SELF-RELIANCE

A major attraction in the Asia-72 Fair is the Science & Technology Pavilion—a giant space-frame structure of concrete and steel. One of the four halls of industries, the pavilion presents to the visitor a glimpse of the broad spectrum of activities of the major scientific organisations in the country—the Council of Scientific & Industrial Research and the Departments of Atomic Energy, Space & Electronics.

The first section in the pavilion deals with the development of atomic power in India. It shows a giant working model of the CIRUS reactor at Trombay. Photographs of the Tarapur Atomic Power Station, about 100 km north of Bombay, which has been in operation since October, 1969, the Rajasthan Atomic Power Station at Kota one unit of which has attained criticality recently, the Madras Atomic Power Station at Kalpakkam in Tamil Nadu, and the next one where work will start soon at Narora in Uttar Pradesh are also on display.

Then, the varied and complex activities involved in harnessing atomic energy are presented. The whole gamut of operations—from that of locating, mining, and processing atomic minerals to generating power—is portrayed through models and charts. They also show the use of radioisotopes in medicine, agriculture, industry and other areas.

Basic and applied research work in the three organisations is also helping the country overcome shortages of some vital items which are not available locally. A large range of products and processes developed in the National Labora-

tories are already being commercially exploited. One of the major developments in this direction has been the indigenous production of optical glass—a vital strategic material. Others including a computer sophisticated electronic instruments and equipment, television cameras and receivers, complex chemical processes, new materials, etc., that we have developed in the National laboratories and some of which are being produced on a commercial scale by the ECIL, a public sector undertaking, can be seen in the pavilion.

Work in the National Laboratories is also aimed at solving the twin problems of overpopulation and chronic malnutrition. New items of protein-rich food like Miltoine and Balahar developed by them, are on display. A number of commercial processes, developed for the large scale production of basic chemicals from waste products for use in chemical as well as pharmaceutical industries, have been portrayed here.

Yet another facet of Scientific research in our country is its role in fighting environmental pollution. Exhibits in the pavilion show the new methods and instruments developed for this purpose and also better and cheaper materials developed for large scale housing.

India is one of the largest producers of textile and leather goods exquisite examples of which can be seen in the pavilion. It also shows improved machinery and processes for spinning and weaving and better tanning methods for utilising low grade hides. All these have helped us earn more foreign exchange through exports.

Finally comes the section devoted to Space research in India. Our country's modest space effort is primarily oriented towards realising some of the benefits of space applications such as satellite communications, earth resources study, satellite-TV, etc. In this section are shown the satellite stations already built, and the ones proposed to be built and depict the R&D work at the Vikram Sarabhai Space Research and Technology Centre at Thumba.

(Continued from page 7, col. 2)

The committee has advised these countries to reorganize their systems of administration "to give a proper place to professionals" taking into account factors like salary, service conditions, working facilities and professional environment. These nations should also streamline educational patterns to national requirement because "problems of brain-drain arise when expansion of education takes place in excess of economic requirements."

RUSSIAN STUDENTS GIVE BIG HAND IN FARMING

For about one thousand kilometres along the southern foothills of the Ural mountains, extends the Orenburg steppe, a major grain-producing area of the USSR. During the short harvest time, particularly in a bumper-crop year, there is a great shortage of labour at the farms; and it is then that urban people, and first of all young people, come to the aid of local collective and state farms.

In the summer of 1972, the country's first mechanised student team worked in the steppes of the Orenburg Region. The students were already at the farms where
(Continued on page 10, col. 2)

COMMUNITY AND THE COLLEGES —A SEMINAR

The Indian University Association for Continuing Education (IUACE) organising a seminar in New Delhi from January 27 to 29, 1973. The theme of the Seminar would be "The Community and the College."

A meeting of the Preparatory Committee for this Seminar was held in New Delhi on Oct. 14, 1972. It was decided by the Committee that 20 colleges be invited to participate in the Seminar and each college should be represented by its Principal, one member of the staff and one student.

The Committee made the following suggestions—among others—for consideration of the Seminar:

- a) A mobile library may be started in every college to serve the nearby urban and rural areas. The possibility of organising a public library within the premises of the college may also be considered.
- b) The college may undertake the responsibility of the education of the out-of-school youth of the age group 15-25. The colleges can collaborate with the Nehru Yuvak Kendras and N.S.S. etc., for this purpose. The assistance of Central and State Governments should be sought for this work.
- c) The colleges may provide consultancy service in regard to civic matters. The engineering colleges and the town planning and architecture colleges should help in

such matters.

- d) The colleges may establish hobby-cum-production centres to introduce work experience into the lives of the students and to help them to acquire skills which can be of use to them both in its productive sense and as a hobby. It was suggested that colleges might enter into collaborative arrangements with enterprising businessmen who could provide the expertise whereas the colleges could provide premises, part of the capital and part-time labour.

Universities and Voluntary Agencies

The Executive Committee of the IUACE in its meeting in Mysore on October 25, 1972 resolved that the universities should collaborate with voluntary agencies in establishing centres of continuing education in their jurisdiction so that the cause of adult education may receive further stimulus and additional support.

The Committee urged the State Governments to encourage the State Universities and colleges in their States to extend educational service for the benefit of the adult and out-of-school youths at different levels. This will bring the universities and the community closer and will eventually strengthen secular and democratic values of society.

(Continued from previous page)

Agricultural Institute. For future farm engineers, the harvest was also a good, practical lesson.

Several days before the harvest, all the 200 members of the team were already at the farm, where each was given a combine and a plot of land.

CHANGE IN CONCEPT AND CONTENT OF EDUCATION URGED

Reported by J. L. Sachdeva

"The concept and content of education should undergo a change and the true system of education should help the individual to grow his social stature," said Shri M. D. Chaudhary, Maharashtra's Minister for Finance while inaugurating the 25th All India Adult Education Conference in Bombay on October 30, 1972.

Shri Chaudhary felt that the terminal concept of education should be discarded in the present social, economic and technological context.

The State Finance Minister emphasised that training in rudimentary knowledge of 3 R's should be replaced by functional literary programmes.

Presidential Address

Shri A. N. Namjoshi, Education Minister of Maharashtra, in his presidential address, said that it was no longer possible to conceive of education which would satisfy the needs of modern man once for all. He felt that adult education programmes based on traditional concept were more social service or welfare oriented than education oriented.

The Union Deputy Minister for Education, Shri D. P. Yadav also addressed the conference. He urged upon the necessity of providing adult education opportunities both for the literates and the illiterates.

Shri Yadav said that adult education programmes should be informal in nature and should be organised in such a way so as to enrich and improve the life of an individual. He said that training and re-training of the people was

very important for linking the available manpower with the need of the community.

Shri M. G. Mane, President of the Bombay City Social Education Committee in his welcome address, outlined the various activities of the Committee.

Shri S. C. Dutta, Hony. General Secretary of the Indian Adult Education Association, presented the report of the Association.

Dr. M. S. Mehta, President of the Indian Adult Education Association proposed a vote of thanks. He said that adult education programmes should have a comprehensive scope so as to cover the sophisticated specialist at the one end and completely ignorant and illiterate person at the other end.

The session which followed the inaugural function discussed the organisational problems brought forward by the delegates.

Shri J. G. Mathur, Member of Unesco's International Advisory Committee on Out of School Education and Vice-President of the Indian Adult Education Association, in his keynote address outlined the factors that have necessitated the consideration and scope of education. The factors outlined by him were explosion of knowledge, more leisure time, longer expectation of life, breakdown of traditions, growth of specialised skills and technocracy, acceptance of parliamentary democracy and the gradual disappearance of religion and the continuous influence of education over the human personality.

The five-day conference convened by the Indian Adult Education Association studied the concept of life-long education and its implications on India's Adult Education Programmes. It examined the contents of adult education programmes in the context of life-

long education. The conference also made recommendation on the new methods and techniques of adult education and of the training of adult educators in the context of life-long education.

Dr. A. Deleon, Advisor, Union Ministry of Education and Social Welfare, spoke on the contents of adult education programmes in the context of life-long education. He said that life-long education was not part of education but a philosophy of education. Dr. Deleon felt that existing educational institutions should be utilised more comprehensively to try out the concept of life-long education rather than creating new institutions for this purpose.

Dr. Anurik Singh, Secretary, Inter-University Board of India and Ceylon and Indian University Association for Continuing Education, outlined the new methods and techniques of adult education in the context of life-long education. He was of the opinion that functional literacy and life-long education programmes were only short term remedies and the vigorous efforts on traditional literacy should continue.

He emphasised the importance of libraries in continuing education programmes for adults. He welcomed the formation of Raja Ram Mohan Ray Library Foundation for the promotion of library service in India and hoped that it would go a long way in meeting the requirements of the self-education of the masses.

Dr. J. A. Drapper, Resident Director, Shastri Indo-Canadian Institute, New Delhi, spoke on the training of adult educators in the context of life-long education. He mentioned the principles for the training of adult educators and the phases of learning.

Zakir Husain Memorial Lecture

During the Conference the Second Zakir Husain Memorial Lecture to commemorate the distinguished services of Dr. Zakir Husain to the cause of education and enlightenment of the masses and his close relationship with the Association was delivered by Prof. M. Mujeeb, Vice-Chancellor, Jamia Millia Islamia, New Delhi. The subject of the lecture was 'How Man is Made!'

Messages

Messages were received from President of India, Vice-President of India, Prime Minister of India, Union Defence Minister, Finance Minister, Planning Minister, Labour and Rehabilitation Minister and the Education Minister, State Chief Ministers and the Director-General of Unesco. Prof. Nurul Hasan, in a message, has said: "I am happy that the Indian Adult Education Association has chosen the occasion of the 25th All India Conference to discuss life-long education and its implications for India's Adult Education programmes. The concept of life-long education is particularly appropriate in a country where large numbers of the people have been denied the basic educational facilities and even where such facilities exist, large numbers are unable to avail of the same on account of socio-economic situation. Formal education in this context becomes often a door to the privileged and works against though unintentionally, the goal of a free and just society with equality of opportunities. It is, therefore, imperative that we provide increasing opportunities for all adults to learn according to their interests and needs and to ensure that every person has the opportunity to develop its talent and is not deprived of facilities on account of socio-economic situation." (Continued on page 12, col. 2)

PLEA FOR STUDY OF NON-ENGLISH SCIENTIFIC LITERATURE

Professor Dr. Prokopanov of the Higher Veterinary Medical Institute, Sofia, Bulgaria, who spent about a week in the Punjab Agricultural University recently has expressed the opinion that in Indian veterinary institutions, scientists consulted very little German or Russian literature. He suggested the establishment of an agency in India for compiling and abstracting non-English literature on this subject.

Professor Prokopanov who is visiting India for 4 weeks under the cultural exchange programme is working as the head of the department of obstetrics, gynaecology.

(Continued on page 13, col. 3)

STRIKERS STRIKE

A DEAL WITH RAJASTHAN GOVT.

An interesting package deal promising a settlement between the strikers and the Rajasthan Medical Colleges has been concluded.

The Rajasthan Government has agreed to enhance the interest-free loan payable to doctors—who intend to start private practice—from Rs. 5,000, as originally offered, to Rs. 7,500. Doctors willing to practice in rural areas, especially small villages, would get a stipend of Rs. 200/- a month for three years. For others, the stipend, as announced earlier, will be payable only for two years. The allowances of various categories have been increased by Rs. 25 a month, instead of the demanded Rs. 100.

A committee, on which student representation is likely, will go into the question of creating additional job opportunities for new medical graduates.

(Continued from page 11, col. 3)
count of its failure to go through the formal education system at one stage or another. Further, there is tremendous explosion of knowledge in all fields—natural and physical sciences, in social sciences, in technology and a new awareness in the humanities. This knowledge must reach larger and larger sections of our society so that it permeates and informs our manifold activities for socio-economic development.

I would like to put emphasis on adult educational activities oriented towards two major goals of our society—self-reliance and the reduction of poverty. These goals cannot be achieved without a vast effort for increasing knowledge and skills and at the same time strengthening the social consciousness and the attitudes of the present and future generation. I trust the concept of life-long education as applied to India's adult education programmes would give a new direction for the imparting of appropriate values. There are new aspirations and new hopes and a new ferment in this 25th year of our Independence and I, therefore, congratulate the Indian Adult Education Association for electing this important and significant theme for their 25th conference and wish them all success for their deliberations."

Over 200 delegates from 18 States and Union Territories attended over. Over a dozen universities also deputed representatives.

Resolutions

The conference has passed a number of resolutions. In a resolution for continuing education in universities it has said:

The conference repeats its feelings of concern that so far the universities in India have made so little contribution in promoting

adult education. Some universities have initiated action in this direction, but so far for a country of the size of India with its history and heritage in arts and culture, this is a meagre performance.

The University is the most suitable agency for rendering this service to the community in all fields of knowledge (including liberal education) particularly to out-of-school/college youth and also in the areas of highly specialised learning.

The universities should not only organise courses for the adult people who are engaged in their professions, but should also extend the scope of their studies so as to include the subject of adult education as a discipline. This will have the advantage of providing qualified adult educators to work for the universities and elsewhere.

The universities should also conduct research in the methods and techniques of literacy work.

This conference welcomes the establishment of the Indian University Association for Continuing Education and offers its full support in furthering its programmes.

KARNI SINGH'S PLEA FOR A UNIVERSITY AT BIKANER

Dr. Karni Singh, M.P., has suggested to the Prime Minister to agree to the setting up of an university at Bikaner—a place which has 29 degree colleges, huge collections of manuscript literature, rich geological and archaeological finds for research purposes and a first-grade medical college. Referring to similar demands voiced by the people of Ajmer and Kota, he said that, after Jaipur and Jodhpur, Bikaner was next in priority: "Ajmer being very close to Jaipur, it can get all the benefits from the University of Rajasthan."

IDA AID FOR DEVELOPING TWO AGRICULTURAL UNIVERSITIES IN INDIA

For the first time, the World Bank seems to be involved in India's educational field: a credit of \$12 million for developing two new agricultural universities — Assam Agricultural University and Rajendra Agricultural University — was recently announced by its affiliate, the International Development Association (IDA).

The project is expected to be completed sometime in 1979, and will result in two consolidated constituent campuses. And these will produce better trained graduates to contribute to agricultural development in the two States.

The universities, which will have the added responsibilities for research and extension, are likely to provide an increasing support to the various technological demands, which may be made by the Green Revolution in India: the Indian strategy seeks to establish an innovative agricultural technology by introducing high-yielding varieties, together with an efficient application of inputs, such as fertilizer, credit, water and pesticides. In order that this strategy succeeds a lot will depend on efficient service institutions like agricultural universities. Through the cooperation of Indian Council for Agricultural Research (ICAR) the Government of India has supported the development of agricultural universities in India on America's land-grant models. These universities in Punjab, Uttar Pradesh and Mysore have been able to produce a new breed of well-trained graduates motivated towards rural development ideals. Assam and Bihar together accounts for 13 per cent of India's population. Since more than 80 per cent of the population

of the two states—62 million—depend on agriculture and other related activities for their survival. The two universities will have two campuses—one each for general agriculture and the other for veterinary science. Whereas the former will have its main campus at Jorhat and the veterinary science faculty at Gauhati, Rajendra Agricultural University will have its main campus at Pusa and the veterinary faculty at Ranchi. The IDA project will assist in the construction like laboratories, classrooms, lecture halls, dormitories, staff and faculty housing. It will also provide a new computer and ancillary equipment for the Institute of Agricultural Statistics (IARS), at Pusa, New Delhi to meet the growing demand of the IARI, 28 research institutes and technical assistance through fellowships and advisers. Each university will be responsible for agricultural research and extension education and service within a limited area near the university.

The project is estimated to cost \$19.4 million and will be completed in some time in 1974. The IDA will advance \$5.2 million required in foreign exchange and about half the local cost. The whole project will be established under the guidance of the Education Division of the ICAR, which has established similar universities in other states.

(Continued from page 21, col. 3)

We have just started Adult Education Programme for our Campus people on a small scale. After serving these villages for over a year we now feel confident that we can handle a small project of Adult Education.

STRAIN MEASURING BRIDGE DEVELOPED

The National Aeronautical Laboratory (NAL) Bangalore has designed and developed strain measuring bridge indigenously.

The instrument has wide application in experimental stress analysis, biomedical engineering, civil engineering etc. By using a multi-channel plug-in system along with this system, very accurate multipoint measurement can be made. This can also be used as a load indicator.

It is an accurate and sensitive basic carrier wave instrument for the indication and recording of strain measurable with resistance type strain gauges. A highly regulated power supply has been incorporated for stable operation. The instrument is transistorised and operates on 230 volts, 50 c/s. mains.

The cost of one unit comes to Rs. 1,600/- approximately whereas the cost of imported unit is about Rs. 5,000/-.

(Continued from page 12, col. 1)

logy and artificial insemination.

In the Punjab Agricultural University he visited different departments and research farms and had discussions with the members of the faculty. Dr. R. N. Kohli, Professor and Head of Surgery and Gynaecology Department, PAU who has lived in Bulgaria for a long time, assisted him in communication with Punjab veterinary scientists.

ALL INDIA SYMPOSIUM ON BIOCHEMISTRY AT PANTNAGAR

Pantnagar, Nov. 21.—A three-day symposium on "Impact of Biochemistry on Agriculture" was inaugurated here yesterday by Dr. D. P. Singh, Vice-Chancellor, Pantnagar University. While inaugurating the symposium, Dr. Singh emphasised the role of biochemistry in agriculture. He said biochemists can certainly help in realizing high crop yields.

About 250 scientists from all parts of the country are participating in this symposium. About 200 scientific papers are being presented in various sessions. During the symposium the speakers highlighted some of the areas of agriculture in which biochemical investigations needing the efforts of the agricultural scientists to increase food production.

An exhibition of scientific products and equipments has also been organised. The main highlight of the exhibition is that it endeavours to introduce a number of new products and equipment manufactured indigenously.

RABINDRANATH TAGORE MEMORIAL FUND LAUNCHED

A band of social workers and admirers of Rabindranath Tagore have formed themselves into a committee with a view to instituting two open four-year college freeships named after the poet under the aegis of the Tagore Educational Society, Bombay.

These freeships will be awarded annually to two applicants (one male and one female) from Grea-

ter Bombay, irrespective of caste, creed or community who pass the S.S.C. examination with the highest percentage of marks and join college. Students who are awarded scholarships by the S.S.C.E. Board or obtain financial assistance from any other source will not be eligible to these freeships.

We appeal to all philanthropists in general and trustee of charity trusts and proprietors of business firms in particular to give us their mite so that our laudable objective may be translated into a tangible reality before long.

Crossed cheques payable to Rabindranath Tagore Memorial Fund may please be sent to the Hon. treasurer, Mr. Robert de Mello, 17-D, Sherey, Bandra, Bombay-50.

BOMBAY UNIVERSITY STUDENTS BOOST UP THANA FARMERS' MORALE

It is reported that Maharashtra farmers in Thana District find that they would have a normal crop even when there were no rains last year; the reason reported responsible for this was that a batch of Bombay University students had dug nine irrigation wells for them. The girls too were not to be left behind. And many from 10 different colleges of Bombay converged on the area and pitched their tents.

As many as 3,450 students have so far volunteered to work in the villages.



FOURTEENTH ANNUAL CONVOCATION AT MARATHWADA UNIVERSITY ON OCTOBER 28, 1972

Prof. D. S. Kothari delivered the Convocation Address.

Seen also in the picture (from left to right):

Shri V. K. Dharmakar, Registrar; Vice-Chancellor, R. P. Nath; Dr. Ali Yavar Jung, Chancellor; and Shri G. M. Shroff, recipient of LL.D.

TEJ PAUL'S MINI-COMPUTER

A mini-computer capable of conducting and evaluating an objective type examination with as many as 50 questions has been successfully designed and assembled in the Mechanical Engineering Department of Punjab Agricultural University's College of Agricultural Engineering. Each question can have five alternate answers.

The computer has been designed on the principle of "logical elements" and its working is based on comparing an individual's knowledge with the standard knowledge already fed into the computer's brain.

With some modifications the computer can be employed in the libraries for locating books and also used by the extension workers. It can be used for quality control and also to control various parameters in industrial units.

The mini-computer has been designed by Mr. Tej Paul Singh (28) Assistant Professor who was trained in USSR.

The mini-computer which is at present on display at the Punjab Pavilion in ASIA-72 fair at New Delhi is a compact (52 x 35 x 43 cm) machine and looks like a TV set. It is portable, easy to handle and maintain. Its cost is Rs. 2,000.

A STUDENT TO BE INCLUDED IN SELECTION COMMITTEE OF BANARAS HINDU UNIVERSITY

The Banaras Hindu University has decided to permit a student observer to participate in the meetings of its Selection Committee when appointment of temporary teachers is being considered. marks in the subject concerned and is seniormost among research students. In cases where the student himself is an applicant for the post, the next senior will take his place.

The decision recently taken by the Executive Committee of the University, will allow a research student, who has secured highest The University authorities claim that such a step has not been taken by any other university yet.

HISTORICAL STUDIES TENTH ANNUAL CONFERENCE HELD AT KURUKSHETRA

The Tenth Annual Conference of the Institute of Historical Studies was held under the auspices of the Kurukshetra University from 28th to 31st October, 1972. The Conference was presided over by Dr. R. C. Majumdar, Vice-Chairman of Scientific and Cultural History of Mankind (UNESCO). Dr. B. N. Chakravarty's inaugural address was read in absentia. The conference was attended by 80 delegates on the 28th October representing Universities and other academic bodies. This gathering was fully representative of all India character as delegates had come from



Dr. R. C. Majumdar, flanked by Dr. S. K. Dutta, Vice-Chancellor, Kurukshetra University, and Prof. V. N. Datta, Head of the History Department.

such far off places as Assam, Madras, Kerala, Orissa, Bengal, Maharashtra and Kashmir.

The two themes under discussion at the conference were as follows:

- (i) Religious reform movements and their social contents.
- (ii) Sources of the History of Haryana.

It is fitting that such an historical site as Kurukshetra should be the venue for the discussion of one of the basic themes of Indian history, that of religion with its reform and social implications. In a time of rapid change like the present, it is a subject of great significance for the life of the people.

Fifteen papers were read on this theme covering the ancient, medieval and modern periods. It was generally agreed that the social reforms in India derived their impulse for religious movements, and though the pioneers of the religious movements succeeded in gathering a large number of votaries yet with the passage of time the intensity of the religious movements weakened. This was more particularly borne out by the history of the Brahmo Samaj, which in the early nineteenth century assailed the orthodoxy and establishment, but in the present times the number of the Brahmos is not more than 500. Just as Brahmos mainly are confined to Bengal, so the Sikhs are confined to the Punjab. This point was highlighted as a result of lively discussions which followed a scholarly, thought provoking paper read by Dr. Ganda Singh, ex-Director, Punjab Historical Studies, Patiala, in his paper, 'Guru Nanak & Sikhism'. Dr. Ganda Singh showed in his paper that the Sikhs preached their religion far and wide and establish-

ed their Gurdwaras in far off distant places. The question which provoked controversy was why despite great efforts on the part of the Sikhs, the Sikhs could not move beyond the Punjab in the concentration of their hold and in the increase of their number. The answer given was that this was due to the orthodoxy and potentiality of the Brahmanical order which acts as a bullwork against Sikhism.

Another point of great interest was as to who was responsible for the abolition of the Sati. In his learned exposition based on documentary evidence, Dr. R. C. Majumdar stated that Ram Mohan Roy's role in the abolition of Sati has been exaggerated. It was largely due to the initiative of Lord William Bentick that the Sati was abolished.

Papers on Arya Samaj and their impact on social reforms were read by Principal Sri Rani Sharma, Prof. G. N. Sharma, Dr. V. K. Vashista, Dr. R. K. Saxena and Dr. Sharda Devi Vidyalankara.

Seven papers were read on the second theme i.e. Sources of the History of Haryana. Truly, the history of the Indian nation rests on that of its component states and peoples. Patriotism flourishes best on a basis of pride in local traditions and achievement.

These papers provide a basis for the writing of history of Haryana and of Kurukshetra. In this context Dr. R. C. Majumdar made an interesting point that a ruler of what is now called Laos (Indo-China) Maharajadhiraja Sri Devanika installed a stone inscription in the second half of the fifth century A.D. in praise of Kurukshetra and decided to build a new Kurukshetra there in his own domain.

PUNJABI UNIVERSITY INTRODUCES HUMAN BIOLOGY

Patiala, Nov. 10—The Punjabi University Academic Council has accepted the recommendations of the Joint Faculties of Medicine and Sciences for the introduction of human biology as an elective subject in the curriculum of B.Sc. (T.D.C.) Part II and Part III as an alternative to zoology or botany, it was officially stated here yesterday.

S.V.U.'S RESEARCH SCHEME APPROVED

The Planning Commission, Government of India has approved a research scheme on 'Rural Electrification in Chittoor District' prepared by Dr. D.L. Narayana, Professor and Head of the Department of Economics. Some of the objectives of the study are (1) to measure the subsidy presently enjoyed by agricultural and other users of electricity in rural areas in Chittoor district and (2) to examine the demand for electricity of agricultural and industrial users in rural areas vis-a-vis the supply position during the last five years and the probable future demand subsequent to partial or complete withdrawal of subsidy.

A TECHNOLOGY CENTRE AT VARANASI

On funds which have come from Christian aid, through the Intermediate Technology Development Group of London and the Barrow and Ceyladine Cadbury Trust, a Technology Development Centre will be developed, as an adjunct to the Gandhian Institute of Studies at Varanasi, under the guidance of Mr. Mansur Hoda, who was born in Bihar and has been with the group for some four years past.

GOOD EXAMINATION, BETTER EDUCATION— Seminar at Calicut

A one-day Seminar on Post-graduate Examinations was inaugurated by Prof. M. M. Ghani, Vice-Chancellor, University of Calicut, on 13th November. It was presided over by the Vice-Chancellor, Dr. D. J. Reddy. Prof. M. V. Rama Sarma, Principal of University College and Convenor of the Seminar welcomed the gathering.

Presiding over the Seminar, Dr. Reddy said that Prof. Ghani's participation in this Seminar will offer much needed guidance and guidelines.

Referring to the setting of question papers, Dr. Reddy said that questions should cover the total subject and not selective areas of the syllabus and the questions must be of a nature to argue, apply knowledge gained and apply to situations and solve problems and become better instruments to measure their ability. They must be more fruitful to learning and teaching and should serve as a feed back. Further he said that question paper setting is a crucial area. Time and thought invested over this will promote better learning processes. He stressed the need for junior teachers to be trained to set question papers. Dr. Reddy pointed out that the lack of teachers' interest in spending more time with students should give place to greater responsibility and willingness to partake in new enterprises. Then it will help the teacher to know what the student is learning and what he is not learning.

Talking on the internal assessment, Dr. Reddy pointed out that internal assessment should not be a secrecy and every student should know as to how the marks were awarded. If this system of internal

assessment will succeed the departmental libraries should be strengthened. Lastly he stressed the need to establish an Evaluation Cell for the Examinations.

Prof. Ghani, who inaugurated the Seminar, said that the students are being cheated by the substitute of lecture information offered. Teaching is a means and learning is an end. Further he said that annual examination should be re-designed. He cautioned that the affiliated colleges involvement leads to lack of uniformity.

Referring for a reformation of syllabus, he said that syllabus does not teach itself. He pointed out that the students should get educated and not get packed with information and the design of new question emerge from objectives of education.

OSMANIA TO PERMIT PRIVATE B.A.

The Osmania University Academic Council has accepted in principle to allow private appearance at B.A./B.Com. examinations. The Council has, however,

suggested that there should be a gap of at least two years between the last qualifying examination of the candidate and his first appearance for B.A./B.Com. Part I examination.

The Osmania University Syndicate has approved in principle the proposal for student participation in University administration on the lines of the recommendation of the Gajendragadkar Committee.

The Vice-Chancellor Mr. N. Narotham Reddy, presented the Khasa Subba Rau Memorial award for the Best Article Prize, to Pavan Sahgal last year's journalism student, who also topped the B.J. list. He announced that the University has decided to start the Master of Journalism course from next year.

The Psychology Department has conducted a pilot study on Developmental Norms. The preliminary report proves that dominant parents make the children inhibitive and not confident of themselves.



**Seminar on a Post-Graduate Examinations in Progress
at Calicut University**

As one moves through Punjab villages one is struck by the remarkable progress they have made in the field of agriculture and small-scale industry. Just 15 years ago it was a rare sight to see a tractor ploughing the fields, yet today it is a common sight to see illiterate farmers, both young and old, dashing about on their tractors; humorously enough, some students come to the college on tractors. Tube-wells and harvesting machines have cut down the working time of the farmer by 75 per cent. Beautiful lush green fields and brick houses in place of mud bear witness to the initiative, by the farmer and the entrepreneur. Punjab is poised at the verge of modernity and needs but a slight push forward.

As one is legitimately impressed by the whole-hearted acceptance of modern scientific technology for the development of material resources in the Punjab, one also discovers a growing awareness for a modern scientific attitude toward the development of human resources. In many ways Punjab has not been able to develop a more balanced and progressive attitude toward man commensurate with the modern, scientific and technological attitude toward material goods. For example, the use of scientific technology has been motivated only by economic considerations, whereas questions dealing with the development of man, especially the growth and development of the finer aspects of human thinking and behaviour, art and culture, discipline and freedom have been left out as irrelevant and inconsequential. Such finer aspects of life as found through reading, writing and general knowledge are not available to most people in spite of the fact that they have had few years of regular

THE BARING COLLEGE TAKES BOOKS TO THEM ALL!

BY RAM SINGH, PRINCIPAL, BARING UNION
CHRISTIAN COLLEGE, BATALA



Some students come to college on tractors . . .

schooling and a formal degree. In most villages, there are a few educated people up to the college level, but unfortunately there is hardly any village having good material to read. Some of these people have nothing more than a few old outdated textbooks bearing testimony to their college days. Or, once in a while, a devout family may have a copy of the holy scriptures, carefully preserved for generations. These books are seldom read due to lack of interest and also due to religious demands for ceremonial piety, devotion and unreflective mood. Good books with progressive attitude are not available to these people, nor do they have the reading habit of sitting down and enjoying a good book.

WILL PEOPLE READ FREE BOOKS?

We often asked ourselves, "If we start such a project and make good books available, will people read?" "If we start an adult literacy programme will people learn?"

Answers to these questions were provided by our college library and Student Christian Movement Programme. In 1960, the College built a spacious three-storey building to house the library. In order to popularise its use by students, the Management adopted open-access system, hoping that every student will spend 3-4 hours daily in the library. Ample space and furniture were available and anyone could pick out any book from anywhere in the library and sit and read or take down notes. We were quite aware of our difficult situation, as a great majority of our students came from schools where there were no libraries, and these students had not read anything other than their prescribed textbooks. Hardly anyone of them had the habit of reading, especially reading for gathering information



Children at home get a good deal of pictorial literature, books . . .

A moment of smiles and relaxation with the books from Book-Mobile . . .



not required for examination, or reading for pleasure. Yet in the short span of eight years, exposed to our college library, students developed a reading habit much beyond our expectations, though in a way still limited to the study of college curricula. In a way, it was a breakthrough for us to watch our students overcome the habit of cramming and instead read for examination or for recreation. A small library of about 20,000 volumes of carefully selected and handpicked collection suitable for both serious as well as light reading proved to our amazement that once good books are placed in the hands of people, they cannot but read them. Today, the reading habit is so developed in many of our students that lacking a peaceful and quiet atmosphere at home, they stay in the college after college hours and study till late in the night. The impact of keeping the library open till late at night has proved habit-forming for a large number of our students. These days over a thousand students visit the library daily, and during summer night as many students as 20 stay till after 1.00 a.m. studying under night lights after the library is closed for the day.

MOBILE LIBRARY

The original idea of a Mobile Library grew out of our students' response to our library programme. In a period of about 8 years we saw innumerable the number of student-visitors rise from about 50 to over a thousand daily and issuing of books from 34 to over 400 per day. In 1969 we felt convinced that we had been able to cultivate a habit of studying in the library among our students. At present, there seem to be no difference between town and village students in the long hours of library study engaged in. Taking ad-

vantage of this approach of open access to books we decided to give the Mobile Library a trial. It took us over a year to convince village leaders to begin this programme and almost another year of regular service without a break, to see the idea germinating into a programme of "development of human resources in rural areas" which could become the basis of an "Institute of Rural Development".

We felt these people could benefit from the college programme in the same way as regular students do from the academic programme. Such a relationship between the village people and the college will strengthen the bond of mutual help and inter-dependence and give a chance to the college to establish its bonafides as a leader in the community. It may also help the village students to have greater interest in the welfare of their own villages, as this programme will be eventually conducted by a few students of each village. These students will know their own village

better with all its potentialities and problems. It will also have a significant academic impact on the college in bringing in the next generation of students with reading habits already formed. As mentioned previously we further hope this habit of reading of selected books will lead these village people into an awareness of the world around them and their relationship to it.

WORKING OF THE PROJECT

After a few weeks' experience we realized the difficulty of covering all the four villages in one day therefore, we added Saturday as well. Now, every Saturday afternoon at a fixed time the car with trailer goes to Gaunspura first and then to Gokhuwal, accompanied by 2 members of the staff. Often membership card holders in the village wait for the arrival of the car. It takes about forty minutes to receive old books and issue new ones. Most children report that they finish a book in six days, on



Some find them interesting even at barns!

the seventh day they wait for new books. Generally all the literate members of the family read these books, especially the women.

On Sunday, we go to Panjgraiian first and then to Masanian. Panjgraiian group is the most prompt and orderly and there have been none to receive old books and issue 15 books in less than 30 minutes. At Panjgraiian, even older people wait for us ready with the books.

On Thursday afternoon we distribute books to campus children.

We have about 1200 books in all, most of them in Punjabi, followed by Hindi, English and Urdu. Children's English books published in the U.S. are preferred by most children, because of their good printing, attractive pictures and excellent paper and binding.

To begin with, most members ask for simple but socially oriented novels, such as written by Nanak Singh. Gradually their demand changes as their taste develops for good literature. After a few months they like to read difficult novels, biography, history, leading to literary criticism. Few like poetry; though Urdu readers ask for Urdu poetry books. The older generation asks for books on religion, but the younger generation is more keen on light reading.

Most older people are slow readers. Some of them take months to finish a book and feel embarrassed to see us come every week to remind them that they have not finished the book. We generally ask them to come and get the book re-issued in case they have not finished it, or to get a different type of a book. We do not charge late fee fine. As a matter of fact, we issue books for one month, but we get them back after a week. Only a few books have been out for a longer period than a month. The total number of such books

will not exceed 20. Gokhuwal people return all books every week, the same is true with Panjgraiian. However, there are a couple of books outstanding at Gainspur and a few at Masanian.

In terms of collection of books, one major problem faced by us is the poor quality of paper and binding of Indian publications. The binding is so poor that after two or three borrowings the bindings comes off and we have to get the books re-bound a second or even third time. Paper is so poor that after 15-20 issuings, the paper

of an Indian vernacular publication gets completely worn out and the book has to be discarded, altogether. Within a year we have replaced Nanak Singh, Jaswant Singh and Balwant Gargi's complete sets due to poor quality of paper.

So far, we have involved only two students from each village to help us collect and issue books, as our present need can be met with the help of these boys. Additional boys who want to help will be enrolled for the next programme. We have an Ambassador car with



Modern Punjab farmer can wear good clothes and is fond of culture, too . . .

an open trailer in which we pile up books in wooden book-shelves, and we take them out every Saturday and Sunday. Two of us take turns on driving; one day Mr. McCulloch goes and the next day I go. We would like to have a better conveyance, meant only for the Mobile Library, fitted with book-shelves to hold up to 2000 volumes

and the trailer fully equipped with a projector and equipment to show films, hold lectures and discussions; then we will be able to expand this service by taking on a few more villages. At the moment we are limited by the facilities available. We cannot add more villages nor spend more time in each village.

ARTICLES

HIGHER EDUCATION IN INDIA : PROBLEMS AND PERSPECTIVES

AMRIK SINGH

There is something particularly appropriate about the Member-Incharge of Education in the Planning Commission coming to inaugurate this seminar. This is because the problems of higher education in our country today are more non-educational than educational in character. Attempts have been repeatedly made (the Report of the Education Commission 1964-66, was the most recent) to solve these problems in educational terms but all these attempts have failed primarily because it was assumed, wrongly in my opinion, that the problems were educational whereas in actual fact these are fundamentally non-educational. This is not to deny that a good many problems can and ought to be solved within the ambit of the educational structure and organization but chances of success in this regard are severely limited because non-educational factors impinge upon educational factors much too negatively and unrelentingly.

To take the most obvious fact about higher education, the student population crossed the three million mark last year. Most people will agree that the country is finding it difficult to educate such large numbers properly or successfully. After the USA and USSR ours is the third largest educational system in the world. If the numbers keep on increasing at the present rate, in another decade we would have perhaps the largest educational system in the world. The American system has begun to shrink in size whereas ours is growing rapidly. If the present rate of expansion continues, there would be nothing fantastic if within the next few years we outstrip the USA in this regard. Can the country afford to spend so much on higher education when national income is growing at such a slow rate?

That question apart, do we have jobs for all the people that are being trained? According to the latest figures available, the number of educated job-

seekers registered with the employment exchanges in December, 1971 was 22.96 lakhs as against 13.22 lakhs in the preceding year. Shocking as these figures are, it will be readily conceded that these are not fully reliable. The number of those seeking jobs is likely enough much higher. This is in respect of people with middle level skills or perhaps lower. When it comes to people at higher level skills, we all know the experience of engineers seeking jobs during the last few years. What applies to engineers applies to various other categories of job seekers also. The phenomenon of brain-drain too is closely connected with this situation. One reason why highly educated people choose to migrate to other countries is because jobs are scarce in our country and they find it easier to get job elsewhere. We educate and train people not because there is anything like manpower planning undergirding the educational structure but because we hope that there would be jobs for them. Or to put it another way, since there is a social demand for places in institutions of higher education that demand is met and we do not stop to enquire too closely into the nature of the demand and the social and economic consequences that flow from it.

(Another variant of this situation is the demand for job-oriented courses that is being heard all around. There is nothing wrong with this demand and no one should decry it. At the same time, let it be recognised that even if the demand could be met in full the situation would still be difficult. What we would then have is people who are trained for the jobs but there will not be enough jobs available for them. Today there is at least this alibi that people who have got the right kind of training are not available. What would happen after that alibi is taken away is a thought which might be given passing consideration!)

Why is it that a substantial number of students after they finish their schooling choose to go for college education? It is not the academic bug that has bitten them. On the contrary, if someone takes their desire to enter college seriously and chooses to instruct them accordingly he usually runs into trouble. This is not what the young people are looking for. What they are looking for is a way to enter life. For that purpose they need a degree because this is how we have organised our social and economic life. Without a degree all doors are barred to them and so whether they want to study or not they are inexorably driven into the portals of a college.

It is worth asking why despite such an impressive body of opinion in favour of doing away with the requirement of a degree for entering into Government service, such a step has not been taken, indeed even seriously debated. Probably this would imply such a radical departure from the *status quo* that the existing structure of education and employment would come tumbling down! But is that the whole explanation! Are we sure that the structure is not crumbling before our very eyes? Are we also sure that in trying to protect the structure we are not sacrificing something equally important, viz. the productive capacity of our young men and women?

Our present way of solving the problem can by no stretch of imagination be described as satisfactory. At the college level we seek to do two things. One is to give the young people a degree so that they can qualify for a job. Two, we seek to do at college what we had failed to do at school level. Both these steps create serious problems, one of them being over-crowding at the college level. Strictly speaking, it is a misnomer to describe under-graduate education as higher education. Out of the total enrolment of 3.2 million in our colleges and universities, 3 million or so are under-graduates. This contention does not refer only to the international comparability of degrees but also to the actual academic work done at the college level.

There is also a further problem here. At 15 to 16 when students usually pass out of school, they do not seem to be ready to take decisions about their future. The experience of a few other countries in this regard is somewhat relevant. In several European countries and in the USA it is at the age of 18 or so that students leave school. School begins at the age of 6 and goes on for 12 years. During the years of schooling they are imparted enough skills and competence to be able to enter life. In-

deed in terms of pre-professional skills they are hardly lacking in any respect. When they finish there are two courses open to them. They can either enter life or go in for higher education. Since both conditions of admission and performance are exacting at the higher levels of education only those who feel equal to this demand will have to follow this particular path. The rest enter life on the best terms that they can get. This is not the pattern everywhere and there are exceptions too. UK is one notable exception. In that country a substantial number of young people undertake unskilled jobs at the age of 15—so far. To cope with this situation however the British have adopted the pattern of Further Education. Not only that, nowadays there is increasing talk of providing remedial/adult/continuing education for some of these people who could not educate themselves further. To some extent, the recently established Open University is also designed to take care of this problem.

Obviously in respect of our situation, there is more than one problem here and so many of these are inter-connected. Any solution that is found to it must therefore take into account the following relevant factors:

a) How and to what extent can school education be regarded as the terminal stage of education and those passing out regarded as eligible for recruitment into Government and other jobs?

b) How is the problem of further education and training for those who are 15 or 16 to be solved? This is a problem which is encountered in several other countries as well. Being developed nations they have both the resources to keep them at school and/or provide alternative channels of education along with employment. The Indian situation is without precedent in so far as India is not only an under-developed country it is also an over-populated country.

c) To what extent de-linking of under-graduate and post-graduate education will help? That it will help post-graduate education is certain. But will it also help under-graduate education or will it be only a formal change without any real substance to it? It may be mentioned in this connection that some of our recent experiments in juggling with the duration of education (10 plus 1 plus 3; 10 plus 2 plus 3; and several other variations on it) have been partially directed at this problem. Only they have served to create confusion and not improved matters in any significant way.

d) And, finally, there is the basic problem of being

able to generate more jobs so that in the ultimate analysis those who enter the working force via the colleges and the universities do not turn upon these very institutions and destroy them.

There is one additional problem which could have been mentioned but is not mentioned here. It is one of cheap access to college education. The fact that fees are low and the bulk of financial outlay comes from the State in some form or the other enables a large number of students, who might have otherwise decided against it, to join colleges. This also adds to over-crowding.

Evidently, none of these problems can be solved by educationists with any degree of competence. Only the planners are qualified to do so. Indeed if I were to define the order of priorities in which the planners should take decisions within the next few years, I would say that for obvious reasons decisions about economic matters should come first. But after those decisions have been taken, matters concerning educational policy should come next. This is not to imply that other matters are unimportant. Some of them, for instance defence, are very important. But then decisions about them are being taken all the time and most of these sectors of activity are working within a policy framework. Education however does not seem to have so far received the kind of attention due to it. Decisions about higher education in particular must receive a high order of priority. Investment in higher and professional education and economic productivity are so closely inter-linked that it is extraordinary, to say the least, that more attention has not been paid to this aspect of the problem.

II

Opinions about the process and success of planning in the country vary a good deal. This is not the time to debate that issue nor do I possess the requisite competence. As far as higher education is concerned however, it is becoming increasingly difficult to continue to operate the existing system.

As a matter of fact, the system has either broken down or is beginning to break down. (How we exactly describe it depends upon how strongly we happen to feel in relation to a particular situation confronting us.) At least in three respects it may be said to have broken down already. One is regarding its efficiency. Something like 50 per cent of the students who enter college do not pass out. Why and how that happens are complex matters and cannot be investigated here. The second is regarding its productivity and, to some extent, this factor is

linked up with its efficiency of operation. Even those who pass out are lacking in some of those basic skills which are required even for middle-level jobs. Cases are not unknown when for one vacancy several hundreds apply. Even when the selection is fair, there is no guarantee that the person so selected would be fully equal to the job. How and why this happens also cannot be investigated here, for that would take us beyond the scope of the present article.

The third aspect in which the system has broken down refers to the wastage of resources. Not only those passing out lack the competence that is expected of them, they are unable to find employment even when they possess the requisite competence. In other words, the system is either failing to produce the right people; or if they are of the right kind there is not enough demand for their skills and they find themselves rendered surplus. While the first two problems relate to the capability of the educational system, the third problem relates to the social and economic context of the country and in that sense is beyond the educationists. Only it may be added that the third problem exerts a clearly negative influence on a solution of the first two problems. That is to say, a great many of the difficulties of those involved in education derive from the fact that the planners in the country who control these things are not doing what is expected of them.

To meet the situation a number of methods are proposed. Some of them are admirable in themselves—correspondence courses for example—and deserve to be adopted in any case. But whatever be the methods adopted to divert pressure, in the end it will all boil down to the capability of the economic system to generate jobs. It is possible to divert people to channels other than higher education but whatever channel is followed ultimately leads to the same destination, viz., employment. The crucial problem therefore is of developing the economy in such a way that more and more jobs are created and all those qualified are gainfully employed and not only for the sake of providing employment.

There is a certain amount of naivete as well as starkness in this statement. It is not as if the planners are unaware of the nature and dimensions of the problem. They are not. But what use is this awareness if they lack the necessary will to take hard decisions or, in the end, come up with half solutions. While half solutions are certainly more welcome than no solutions, by definition these cannot solve the problem. The problem now is stark and simple.

Either the educational system is geared to the objectives of national development and social change or it begins to act as a drag on these twin objectives. For the last two decades or so it has been acting as a drag. How long it can go on like this is another matter and one about which no one can speak with authority. But that this has been happening for quite some time is generally accepted. Some of its other implications are also as disturbing as the fact that the system as now operated is, for the most part, *wasteful and inefficient*.

To take an obvious illustration of the injurious side-effects of the existing system of higher education, a reference may be made to the neglect of elementary education in the last two decades. Between the years 1950-51 and 1965-66, firm figures for which are available, while the expenditure on primary education in 1950-51 was 40.1 per cent, by 1965-66 it had come down to 26.1 per cent of the total amount spent on education. During this very period the percentage of expenditure on universities increased from 5.4 per cent to 7.9 per cent and that on professional colleges from 4.6 per cent to 9.5 per cent. All in all, the percentage of direct expenditure on the colleges and universities was 25.7 per cent of the total budget and that on schools was 74.3 per cent. This was in 1965-66. Since then, there is reason to believe, the ratio has become further adverse to lower levels of education. While no firm figures are available, it appears as if the percentage of direct expenditure on higher education is close to 33 per cent of the total expenditure on education.

The neglect of elementary education has unmistakable implications both in the economic and the social field. Economically, inattention to elementary education hinders the process of growth. Socially, it creates tensions. Notwithstanding these adverse factors, the country has so far not taken any steps to modify these relative proportions of expenditure as between higher and school education. From whatever one can gather, it appears that the intention is to provide something additional for elementary education in the Fifth Plan and leave the commitment to higher education more or less untouched.

This, it may be affirmed, will be a half solution. Perhaps it would be truer to say that it would be less than a quarter solution even. Higher education today has become "cancerous" in nature. That is to say, it has started feeding upon itself. A good many of its products find employment within the sector of higher education. As the demand for higher edu-

cation grows and is met, this means more and more jobs for those who might otherwise have been unable to find jobs. In course of time a kind of cycle is established and looking around the country it is possible to see that the cycle has already been established.

There would be nothing wrong with the establishment of such a cycle provided the demand for higher education were not primarily social and only secondarily economic in character while in point of fact it should be the other way round. From the point of view of the country, the main reason for both seeking and imparting education should be that this would help in the growth of the country. This is not happening. On the contrary, the growth of the country is being injured and thwarted because of the unproductive expenditure involved in the provision of higher and professional education. This is the stark reality that faces the planners and unless the planners can take the right decisions and re-order their priorities it would be an exercise in optimism to assume that the educational system can either continue to operate effectively or that it can be efficient or productive in any meaningful way.

III

How to measure the efficiency of an educational system is not so easy. In particular it is difficult to express an opinion about the quality of work being done. In our situation however one need not feel all that concerned about how efficient or sophisticated are the measuring instruments. Such a question would arise when there were to be real interaction between students and teachers and there obtains something like a clearly identifiable teaching situation. In our case the pattern that is developing is somewhat like this. Admissions take place around June or July. It takes nothing less than a month for students and teachers to settle down. Soon after come elections to the Students' Union. This means another month wasted. By the time these elections are over some situation has already erupted and the next few months are taken up by some form of confrontation. Most often a confrontation is avoided and the institution is closed down. It would not be too much to say that by the end of the year hardly 30-40 days of teaching has taken place.

With the beginning of the next year, things begin to improve. Examinations loom on the horizon a few months hence and both students and teachers are in a mood to do some business. As soon as the examinations approach, students are given preparatory holidays on the questionable assumption that

something was learnt during this period and it now needs to be digested and assimilated. In something like half the cases the examinations cannot take place. Either the students are not ready and demand postponement. Or when the examination is actually held there is such widespread copying that a university is sometimes obliged to cancel the examination. Cases are not unknown where examinations once postponed cannot be held again for as long as a year. Where was any learning done in this situation or where was anything but perfunctory teaching done? How have the students justified the amount spent on them from the state exchequer and how teachers can be said to have done the job when against the one quarter of so services rendered they have received full time wages? To ask these questions is to almost invite ridicule and even personal criticism. But that is a cover for academic insensitivity and cannot obscure the fact that our system of higher education is not only morally corrupt but is also perhaps the most wasteful in the world.

Now who is to remedy this situation? Certainly not the students. They are driven into the orbit of higher education not because they seek it but because they have little choice in the matter. Since the majority of them are neither well-motivated nor well-equipped for undergoing advanced training and are therefore reasons only dimly understood by them, they tend to behave as a mob would. Quite often the mob acts in a reckless and anarchic fashion. But as often the mob is manipulated by people who wish to manipulate them. This is done by the so-called politicians and every party, including the ruling party, does what it deprecates in others. In any event, as argued above, the students are a victim of the social forces at work. They neither have the ability nor the stamina to fight the social forces. To deplore what they do will not help therefore.

To deplore the role of the teachers would be more pertinent but perhaps equally futile. There are a number of reasons for saying so. In the first place the bulk of teachers lack professional awareness. Most of them are doing a job and not following a vocation. The distinction is crucial and needs to be underlined.

In the second place, the quality of those going into teaching has been declining sharply in recent years. One explanation for it is the relatively rapid rate of growth in recent years but the more important explanation has been our inability to maintain satisfactory standards at the post-graduate level. As a matter of fact this particular fact is going to

hurt us enormously in the years to come. The standards were never very satisfactory at the undergraduate level. But then these people seldom presumed to instruct others except perhaps at the school level. In the case of post-graduates a certain number of them go into school teaching but a larger number of them go into college teaching. The absence of good standards at the post-graduate level has in this sense a multiplying effect and the rot has spread pretty far and wide for the simple reason that the process has been at work for a whole generation now. I have described this process in some detail in my article "Higher Education in the Seventies" (*Quest*, September 1971) and I do not wish to enlarge on it here any further.

To put it in another way, when the instruments of education are themselves faulty or in any way inadequate, it is too much to hope that they can become instruments of change. In a manner of speaking, this is the most disquieting feature of the situation today. Whatever schemes are thought of and whatever plans for change are introduced, hardly anything gets done because the agency through which anything can be done are the teachers, and they are both unable and unwilling to act. More than anything else, this single fact explains why the recommendations of the various Commissions including those of the Education Commission (1964-66) proved to be so totally sterile.

Partly because of this academic and sociological phenomenon and partly because the conditions of work and promotion within the educational institutions are almost totally unrelated to the performance of a teacher, a stage has been reached where it is hardly possible to mobilise teachers in any sustained or meaningful way. On their own there is seldom any evidence of initiative in the interests of academic reform. In a very large number of places conditions of work are unfavourable to them and even the emoluments, in comparative terms, are not all that satisfactory. For some of them to show initiative on trade union lines is therefore only to be expected. But even in places where conditions of work and emoluments are, relatively speaking, satisfactory, there is little evidence of any academic initiative. To say therefore that in the existing situation the teachers cannot be a force for change is to recognise the facts of academic life.

The use of the word cancerous in relation to higher education a little while ago was not an accident thus. The intention was not to shock anyone but to call attention to two facts. One was the nature

of the system to feed upon itself and the other was its inability to cure itself. Were it capable of self-cure it could have heeded anyone of the numerous physicians that have been prescribing for it in recent decades. This has not happened and instead the situation has been getting more and more desperate, which is only another way of saying that as an organism higher education has lost the capacity to cure itself and it is only outside intervention which may save it.

At one time it looked that the UGC could be that outside agency. Sad to say, it has also become a part of the system. The only agency that one can now look up to for intervention is the Planning Commission. The principal task of the Planning Commission is to organise economic life in such a way that it becomes more and more productive. The educational sector exists largely to serve as also to service the economic sector. If it is allowed to carve out an autonomous and self-serving role for itself, before long it will hurt the economic system. This has been happening for quite some time now. The thesis advanced here is that this cannot continue to happen.

THE ROLE OF LIBRARIES IN CONTINUING EDUCATION

Dr. L. M. Padhya

Smt. Hansa Mehta Library
(University Library)

M. S. University of Baroda

It is accepted that education is a continuing process and it does not stop when one completes the formal education in school, college and other types of institutions. Education goes on throughout one's life. In fact, after one has taken education from school and college he requires to be re-educated continually.

Knowledge is expanding and fast growing every day. In the modern world the spread of knowledge has become an absolute need of progress for society getting in touch with new knowledge and attempting to learn new skill should be a continuous process. These are the qualities which are most essential in the present day world. Since independence, the whole concept of education has been undergoing a

change. Emphasis is now on the overall development of individual. We have adopted to a democratic set up. We have high percentage of men and women who are illiterate and in equal percentage of those who come below the educational level described in a democracy. In India, large segment of the population is not very keen to get on to receive the system of formal education and, therefore, they have to be provided with a programme of continuing education. Continuing education can play a great part in the needs of society and in every facet of life for the development of democracy. In Kothari Commission Report it is mentioned: "Continuing education becomes growing harvest for which formal schooling is only the planting and the cultivation" (481-482p.). This requires problems connected with curriculum construction, teaching methods and library facilities and so on. In this context, it is that it will be helpful to place some thoughts of the "Library in Continuation Education".

PURPOSE AND SCOPE

As discussed at the conference in Madras, the purpose of continuing education is to enable the citizens to realise their full potential as individual and to contribute effectively to social and economic development. The general objectives of the continuing education should be:

- (a) to help the individual to play effectively the role in the rapidly changing society;
- (b) to develop the skill of decision making and leadership;
- (c) to promote the optimum functioning of economic, political and social institutions within the content of a domestic life.

The programme of continuing education should be designed in view of the points which are important in need and methods:

- (a) To enable the educated person to develop a new interest and a skill;
- (b) To understand fully the human rights;
- (c) To brush up the professional skill and training;
- (d) To provide functional literacy;
- (e) To give opportunity for remedial education for those insufficiently educated;
- (f) To give upto date knowledge in vocational fields.

The course should be conducted, broadly speaking, to suit different people, one who can attend to them regularly and better for those who are unable to devote their time in attending the programme.

THE LIBRARY

Dewey says: 'Education means just a process of leading or bringing up'. The goal of education is helping the individual to develop a wholesome personality and making him useful member of the society. It is well known that a vast multitude wait to be educated and enlightened. Library is a means of individual education. Libraries provide the information and ideas which are essential for responsible citizenship. Library aims at creating opportunities to develop social habit and help the individual to adjust himself to the complex society. Library is the ideal institution for the educational advancement of the people. Continuing education has been characterised by a strong urge for self-improvement and self-education. In a democracy the library has to play the vital role of educating the masses. It is an institution irrespective of age-limitation and academic formalities. One of the difficulties in spreading continuing education is to develop suitable literature for the neo-literates.

No argument is necessary now to convince the importance of library in continuing education programme.

Library can contribute in making the programme of continuing education by providing the reading material of the library for developing the skill in the reader to make effective use and creating the reading habit. Reading materials of library should consist of two types: (1) Books, periodicals, pamphlets and newspapers and microfilms, microplates etc. and (2) A.V. Aid. Is such as pictures, slides, film-strips and radio etc. Books should be of an elementary type covering general matters as well as special branches of knowledge. Periodicals and newspapers files should be maintained for reading references on careers and other informative interest. The provision of A.V. Aid materials will be expensive but special consideration should be given to it in view of the courses and method of instruction in continuing education.

For the promotion of reading habit, readers' guidance service should be essential. Trained staff should take utmost interest and care to satisfy the readers of different aptitude and interest. In guiding the reader one should not forget Nitack's words 'although the reader, the library is primarily an institution designed to serve the reader, its contemporary position in society suggests an active institution of ideas rather than a passive providing of books'. The reader may need guidance but it should be limited to the extent of the difficulties he faces. The

most important of all activities in promoting the reading habit is for the staff to make personal contact with reader. The library should know the reading interest, habits and need of the community to whom it is to serve. The library should make selection of the reading material on the above principles, otherwise it will be a storage of reading material and not a centre for self-education.

The following suggestions will help to make the library a centre for continuing education:

- (a) We should develop the library as a centre for new and creating ideas
- (b) There is a need to develop, organize and administer materials that meet the needs of community;
- (c) It is essential to evaluate the success of the library improvement periodically;
- (d) It is good to maintain the relationship with other agencies in the community;
- (e) It is good if we could create the library a place which invites the readers to come in to learn and enjoy.

CONCLUSION

It is necessary to have a co-operation between the library and the institution of continuing education if the programme is to succeed. Library and education are the two sides of the same coin which cannot be separated.

AS A MATTER

OF FACT, WE

FORGOT TO

TELL YOU ONE

THING...

READ UNIVERSITY NEWS!

QUOTE

... UNQUOTE

- ✓ **Comment:** "The existing system of examination is probably the main cause of all the troubles of higher education today."
- All examiners should be dismissed as a first step!
 - **An article in Educational Reporter:** "The present socio-political situation in the country provides a favourable setting for developing a large-scale programme of educational reform."
 - Yes, a great setting, in which everyone is fed up both with education and reform!
 - **The Education Commission (1964-66):** "The present educational system will need radical changes, if it is to meet the purposes of the modern, democratic socialist society..."
 - Which is so fast that students have no time for studies!
 - **Mr. Jagdish Sharma, President of the Bihar Madhyamik Sikshak Sangh:** "About Rs. 15 lakhs were spent by teachers during their struggle for about five months."
 - And they still want higher salaries!
 - **Joint Secretary of the same Sangh, Umeshwar Singh:** "The demand for take-over of non-Government Secondary Schools would be taken up on the national level."
 - Which means a Dharna in front of the Prime Minister's House!
 - **Dr. A. G. Mirajgaokar in an article:** "There are two problems in higher education—firstly, there is a great increase in the number of students; the second is that the growth of knowledge has rendered our system of teaching obsolete."
 - A very good reason for students to find alternative channels of activity—like burning new buses!
 - **An Editorial:** "Both sides—the Government and the representatives of teachers—deserve congratulations for the wisdom they have shown in coming to a sensible settlement."
 - In this case, the word "settlement" means that each was able to see the other's limitations!
 - **A correspondent of the Indian Nations:** "The students who were likely to agitate for the shortage of teaching staff in the polytechnics at Saharsa told me that they had deferred the agitation for this on the Principal's assurance."
 - Obviously, they couldn't defer it indefinitely!
 - **Chief Minister Kedar Pandey of Bihar:** "The strike by teachers has not angered the Government."
 - He must have been elected from a teachers' constituency!
 - **The Vice-Chancellor of Ranchi University, Mr. R. S. Mandal:** "Nearly one month's stay at Ranchi has been fruitful to understand the maladies and problems of the university."
 - A month's stay in Ranchi would make a man understand even the problems of world peace!
 - **News:** "The teachers in Bihar are discussing the appointment of a compulsorily retired Bihar Government Officer as University Professor."
 - They are bound to be compulsorily retired, too, if they don't behave!

W. D. MIRANSHAH

EXTRACTS

A GIRL'S JOURNEY THROUGH COLLEGE

The girl has just completed her degree course in a women's college. She is keen to do a post-graduate course. The first few days are exhausting and spent in collecting certificates and filling in the application form. Then a long period of waiting.

She is delighted when her name appears in the list of selected candidates. But the joy is mingled with a vague feeling of fear, as she has to join a co-educational institution after having led a sheltered life, studying only in a girls' school and college.

D-DAY ARRIVES

Standing in a never-ending queue, she pays the fees and waits anxiously for the classes to commence. D-Day arrives. She gets up early in the morning. She is so excited that she changes her saree twice or thrice. She gulps down her breakfast and is ready for college. She is scared to go to college alone on the first day. She has somehow persuaded some of her friends in the same class that they should go together.

The atmosphere is strange. There are groups of boys, some at the entrance, some at the staircase commenting on the girls. The girls do not know in which direction to go. They find it difficult to find their class room. They walk embarrassed from room to room, to clusters, never getting the courage to walk alone.

ORDEAL ENDS

At last the ordeal comes to an

end. In the class room they feel somewhat secure but are still shy and tongue-tied. They are unable to muster enough courage to answer the questions of their Professor. There is always the lingering doubt that they will be ridiculed and teased by the boys if their answer is wrong.

The class over, they rush to the Ladies Room. Their pent-up emotions break out. There is a babble of voices trying to out-talk one another. They proceed to the bus stop. Once again the same problem: groups of boys making silly and crude jokes and teasing them. They get into the bus and heave a sigh of relief. Their agony has ended for the day.

By year-end the girl gets used to college life. She learns by experience that the best way to face the battalion of boys—some aggressive, some over-solicitous, some helpful, some defiant—is to go about minding her own business, indifferent to the cat calls, wolf-whistles and jokes. As she now gets into the bus to return home after college, she is calm, sure of herself and self-confident.

Saraswathi Balasubramanian,

—From *Osmania Courier*

HEARD ON THE CAMPUS

A couple of girl students went and complained to the Principal: "Sir, the window panes of the girls room have been broken." Unwittingly the Principal answered: "Don't worry, girls, I will look into it."

EDUCATION & GOVT.

I was waiting for the conclusion of the Secondary School teachers strike, so that I may air my views on nationalisation of education in a congenial atmosphere. Now I have got my opportunity. Let everybody have second thoughts on the basic issue of centralising the administration of educational institutions under the Government. Teachers themselves, by virtue of their guiding role in the society, should better revise their position in the larger interest of the nation.

It goes without saying that basically education is a cultural subject and not an economic, political or administrative one. The very character of the future generations and the conscience of the whole society are formed by education. The mind and soul of every individual is trained by it. How can such a vital and sensitive organ of the body social be entrusted to the bureaucratic establishment, however, progressive a certain government may be. State monopoly in the cultural sphere is the surest way to totalitarianism and regimentation. It is on records of history that only Fascist dictatorships have adopted the method of cultural monopoly for gaining complete mastery over all the human souls under their jurisdiction.

India is a democratic republic. As such, the state should never entertain the idea of nationalising education, on any level whatsoever. All the provisions of the Indian Constitution concerning the

freedom of the citizens are dead against this idea. Without abrogating the Fundamental Rights, the Govt. cannot nationalise education. In this regard, the citizens ought to be eternally vigilant to safeguard their liberty rather than letting the Government for petty and temporary interests interfere in the pursuit of the Rights to Freedom. The plant of democracy is still very tender in our country. It must be protected from rather than exposed to the hot winds of dictatorship. That is why Acharya Vinoba Bhave had come forward with the plea for not nationalising education.

As for the security and prosperity of the teachers, they have every right to enjoy it in equality with the highest in their profession. But they should put and stress their issues in the right perspective. After all, the freedom of education should not be sacrificed for the presumed safety of the profession. In fact, the two can very well go together.

ABDUL MOGHNI
Dept. of English
B. N. College, Patna

UNFAIR MEANS AT EXAMS.

Unfair means in examinations is no new phenomenon in the academic activities of the college students today. They have only put the old wine in a new bottle (an outrageously new bottle indeed!). The wine intoxicated their predecessors but, unlike the former, the latter indulged in it individually with great trepidation and alarm during the rigid control of the educational authorities in

the pre-independence days. At best, they elicited a lurking admiration for their intelligently tricky devices to hoodwink the so-called eagle-eyed invigilators. But sometimes, a clever but unlucky chap writing with the usual horizontal position of the right hand with the left dangling in a perpendicular position would stand aghast to find that his incriminating shirt-sleeves had proved to be his undoing.

Those who indulge in mass scale unfair means today show no so-called weakness of their predecessors but a dare-devil spirit with a built-in notion that they have, in a way, a right to the use of unfair means. The former intelligently tricky devices have been replaced by aggressive support and material assistance from outside agencies. The unfair means today evidently indicate that the examinees have neither patience nor perseverance to go through the legitimate process of sustained, regular labour involved in the prescribed studies to be the honoured recipients of certificates and degrees. The idea that the collegians concerned are the future builders of the nation and must realise a sense of prestige of their position and give a good account of themselves in the formative period of their life seems to have receded farther and farther away from the horizon of their minds. The social climate at the present time is, to a considerable extent, responsible for this. The change for the better in the social climate is a long-term process depending on the unstinted efforts of social savants. Therein

lies a permanent cure of the students' present malady. But that is out of bounds of the academic and examination authorities. But when something has to be done by the authorities to improve matters, I would just throw out a few suggestions. I have just a notion that the collegians concerned may be classified into three distinct categories:—

(1) The section which has no natural desire to settle down to regular academic studies and would, on most flimsy grounds, stage a walk-out dragging in their trail the bona fide examinees who fall easy victims to their bullying tactics.

(2) The sub-standard students who are totally unfit to profit by college teaching—so many square pegs in round holes.

(3) There are also students (their number is not inconsiderable) who would not ordinarily adopt unfair means but do so under special circumstances for which they may not be wholly responsible. Prolonged illness having deprived them of the necessary facilities from college or due to what they set down as inadequacy of general lectures, tutorials, library facilities, seminar etc., they feel nervous about the impending ordeal of examination and, being actuated more by thoughtless impatience than by the sound advice of their elders based on a realistic assessment of the situation and perspective involving them, they would not wait for another academic session for adequate preparation, but would

make a desperate bid to get through the ordeal by unfair means which seems to them to be the only alternative left.

The first category is a big headache to the authorities concerned who, if they go into its antecedents, may find that their numerous acts of omissions and commissions have turned it from them to outsiders politically motivated. The section may be nursing all sorts of real or imagined grievances against the authorities, such as utter neglect, gross indifference, glaring injustice etc. in matters vitally affecting it. I have just a notion that, in dealing with the section, the policy of drift is a mistaken one. Promptness and expedition in reclaiming it with sympathy and tact and, what is more, by giving it an unmistakable impression that the authorities are determined to do justice to all and cannot be hoodwinked or bluffed into showing undue favour or concession to any section of students will be more paying. The section, however, disappointed or frustrated, will bow down to the will of the authorities. The second category has to be kept away from the institutions of higher learning. Government have to compensate the financial loss to be incurred by the college authorities as a result of this. The sub-standard students have to be provided for elsewhere where their aptitude, taste and potential talent may find useful play and be instrumental in securing for them gainful employment. At present, the colossal waste of their potential talent as a result of its being harnessed in the institutions of higher learning must stop in the interest of improving the tone of higher education. The third category can be claimed from using unfair means on a mass scale

which they willy-nilly adopt if the authorities introduce compulsory tutorials twice a week and provide adequate library facilities. Strict vigilance may be necessary against a possible tendency on the part of the tutor to talk the period away, leaving the students more entertained than instructed, in a practical manner, in the details of the art of composing answers that would meet the textual and other questions precisely. Tutorials to be effective must not have more than eight in a batch. Any financial hurdle in the connection has to be overcome in the interest of a large majority of students who now desperately stick to an undesirable short-cut of using unfair means on a mass scale. As regards general lectures, the students concerned do not get the maximum benefit from these. It will be helpful to them if the professors of all the subjects make it a point to supply to them, in advance, outlines of lectures they are going to deliver during an academic session. With such a marked change in the climate and atmosphere of the academic functioning of the colleges, the third category will be restored to its lost confidence in itself as regards passing with fair means.

The time-factor has made the mass-scale unfair means situation so complex that it is absolutely past any lingering with any ad hoc measures of requisitioning external force which can only touch the fringe of the situation, and that, not without much bitterness and refracterriness on the part of the unfair means mongers. The imperative need of the hour is a well-organised rational plan which can meet the situation from all sides.

SUDHIR KUMAR GANGULI,
Arya Kumar Road,
Patna.



BOLL—THE LITERATEUR

NOVELIST Heinrich Boll has won the 480,000 kroner (Rs. 7,30,000) award for his "skill in characterization which has contributed to a renewal of German literature," the Academy said.

Boll, described as the best known post-war writer in both Germanies, became the first German to win the world's most coveted literary award since Thomas Mann got the 1929 prize.

The Permanent Secretary of the Swedish Academy said:

"It is not the smallest German miracle that after years of destitution, a new generation of writers, thinkers and researchers is ready so soon to shoulder their country's and their own essential task in the spiritual life of our time. The renewal of German literature, to which Heinrich Boll's achievements bear witness and of which they are a significant part, is not an experiment with form — a drowning man scorn the butterfly stroke.

"Instead it is a rebirth out of annihilation, a resurrection, a culture which ravaged by nights and

condemned to extinction, sends up new shoots, blossoms and matures to the joy and benefit of us all."

Born on December 21, 1917, in the family of sculptor Victor Boll Heinrich got his primary and Secondary education in his home town of Cologne. After his school-leaving certificate he started work as an apprentice in a library. It was then that he started writing. In 1939 he was drafted into the army and became a prisoner-of-war to be released only in late 1945.

After the war, he returned to bomb-ravaged Cologne and enrolled himself at the Cologne University's Faculty of Literature. At the same time he worked as a carpenter in his brother's workshop. His first short story "Der Zug war pünktlich" (The Train Was Punctual) was published in 1949 and his first novel "Die schwarzen Schafe" (The Black Sheep) won him the Group-47 Prize in 1951. Since then he has dedicated his life only to writing.

His latest book "Gruppenbild mit Dame" (Group Picture with a Woman) captures the themes of his earlier books. Devolving round the life of a girl, Leni, Boll paints a historic fresco of German life during the Wilhelmian era — the Weimar Republic — passing through the Third Reich and the Second World War. Her life is marked by the three men she comes across — her husband, a Russian prisoner-of-war, and a foreign labourer. The novel ends with a splendid happening — Leni chased away from her home and saved by her friends, the foreign labourers, from being expelled. This literary work combines the techniques of the documentary, dialogue and flashbacks.

In his books, Boll expresses a

great understanding of mankind — a sober wisdom which promotes fraternity in a world of hate. He found this tenderness and wisdom during his temporary stay in Ireland which resulted in the generous and intelligent "Das Irische Tagebuch" ("Irish Diary") published in 1957. With translations in nearly thirty languages, some 7.5 million copies of Boll's books have so far been sold all over the world.

"I have never been able, especially with short stories, to write less than three drafts, many have five and more. It is a very good control if one reads aloud what has been written down. It has to pass over my lips many times, and then I feel the weak points like a stitch."

Some books:

1951: The Group-47 Prize for "The Black Sheep"

1953: The Critics Prize

1954: The "Tribune de Paris" Prize

1955: Best Foreign Book Prize "The Children Of Death"

1959: The Eduard-von-der-Heydt Prize of the City of Wuppertal

1960: The Charles-Veillon International Prize for "The Two Sacraments"

1967: The Georg Buechner Prize

1971: President, PEN (International) Club

1972: Nobel Prize for Literature

CONTRIBUTIONS ARE INVITED ON ANY ASPECT OF HIGHER EDUCATION. PLEASE SEND THEM TO THE EDITOR.

CLASSIFIED ADVERTISEMENT

MADURAI UNIVERSITY

Notification

Applications in the prescribed form are invited for the undernoted posts in the university.

1. One Reader in Tamil (Lady) at Courtallam Centre.

2. Two Readers in Botany (ladies) one at Courtallam Centre and another at Tuticorin Centre.

3. One Reader in Commerce at Virudhunagar Centre.

4. One Lecturer in Gandhian Thought and Ramalingar Philosophy.

5. One Senior Lecturer in Politics for the Correspondence Course.

6. One Director for the Correspondence Course.

7. One Lecturer in Mathematical Economics.

Scale of Pay:

Director: Rs. 1100-50-1300-80-1600.

Reader: Rs. 700-50-1250.

Lecturer: Rs. 400-40-800-50-950.

The applicants should possess high academic qualifications with experience of research work and post-graduate teaching.

The prescribed form of application and full details regarding qualification, field of specialization and experience required can be got from the undersigned on requisition accompanied by (1) a self-addressed envelope with postage stamps to the value of 0-40p (35 plus 5 refugee stamp)

affixed thereon. (2) a State Bank of India Chalan or Postal Order for Rs. 5/- (Rs. five only) payable to the Registrar, Madurai University Post Office, Madurai-21.

**S. RAMANUJAM,
REGISTRAR.**

Madurai-21.

INDIAN SCHOOL OF MINES DHANBAD

Advertisement No. 3/72.
Dated the 17th November, 1972.

Applications are invited for the undermentioned posts. Age relaxable for candidates well qualified. Higher initial pay may be granted to specially qualified and experienced candidates. Those who are in service should apply through proper channel. If applications through proper channel are likely to be delayed, an advance copy may be submitted, but in such a case original applications should invariably reach this office within 15 days of the last date prescribed for receipt of applications. Besides pay, the posts carry allowances according to rules which at present correspond to those admissible to Central Government employees.

Prescribed application forms for the posts will be supplied from the office of the Registrar, Indian School of Mines, Dhanbad, on receipt of a self-addressed envelope of the size 29 x 12 cms. and affixed with postage stamps of the value of Rs. 1.75. Applications should be accompanied by a Money Order Receipt for Rs. 8/- (Rs. 2/- for Scheduled Caste/Tribes candidates). Candidates called for interview for the post will be paid Second Class Railway fare for to and fro journey by the shortest route. Applications must reach the Registrar, Indian School of Mines, Dhanbad on or before December 22, 1972.

(1) One Senior Librarian:—
Post temporary but likely to

become permanent. Pay: Rs. 700.50-1250/-. Age as on 1-12-72—45 years and below. Qualifications: Essential: (a) First or Second Class M.A./M.Sc./M. Com. plus a First or Second Class B. Lib. Sc. or Diploma in Library Science, the degree of M.Lib.Sc. being a preferential qualification. The candidate should have secured at least 60% marks in the qualifying examination (b) At least 7 years experience as Librarian or in a responsible professional capacity in a library (c) Good academic qualifications and research experience (with publications).

(2) One Assistant Professor in Electronics, Department of Engineering. The post is permanent. Pay: Rs. 700.50-1250/-. Higher initial pay up to Rs. 1,000/- may be offered to highly qualified candidate with long experience. Age: As on 1-12-72—45 years and below. Qualifications: Essential: A good degree of recognised University in Electronics Engineering or in Industrial Electronics or in Electrical Engineering with Electronics as special subject; (ii) About two years industrial experience including vacation training and apprenticeship. Candidates must have secured at least 60 per cent. marks in the aggregate in the Degree Examinations in the absence of a Postgraduate Degree.

(S. N. SARKAR)
Dt. 16-11-72. DIRECTOR.

PANJAB UNIVERSITY (Advertisement No. 59/72)

Applications are invited for the following temporary/permanent posts in the pay-scale mentioned against each, in the Department of Botany, Panjab University, so as to reach the Registrar, Panjab University, Chandigarh, along with postal orders for Rs. 7.50 in respect of posts at Sr. No. 1 to 6 & 7 and Rs. 5/- in respect of post at Sr. No. 5, by 23rd December, 1972.

UNDER THE UGC PROGRAMME OF SPECIAL ASSISTANCE

1. Professor in Bryology/Pteridology—1—Rs. 1100.50-1300.60-1600.
2. (i) Reader in Mycology & Plant Pathology—1—Rs. 700.50-1250.
(ii) Reader in Bryology—1—Rs. 700.50-1250.
3. Lecturers/Sr. Research Fellows in Bryology/Pteridology/Morphogenesis and Tissue Culture/Mycology and Plant Physiology—5.—Rs. 400.40-800.50-950.

4. Technical Assistant. 1. Rs. 400.40-800.50-950.

5. Office Supervisor. 1. Rs. 225.15-360-EB-20.500.

DEPARTMENT OF BOTANY

6. Lecturer in Plant Physiology. 1. Rs. 400.40-800.50-950.
7. Temporary Lecturer in Cytology & Genetics. 1. Rs. 400.40-800.50-950.

QUALIFICATIONS:

Post of Professor at Sr. No. 1.

- (i) A first Ph.D. with teaching experience of ten years in Bryology or Pteridology;
- (ii) Considerable amount of research work to credit as evidenced by research publications of high merit.

Posts at Sr. No. 3, 6 & 7.

- (i) At least Ph.D. with teaching experience of five years in the discipline concerned;
- (ii) Considerable amount of research work to credit as evidenced by research publications.

Posts at Sr. No. 3, 6 & 7.

- (i) A first class Master's degree at an Indian University or an equivalent qualification of a foreign University with bright academic record.
- (ii) Preference will be given to persons having teaching research experience in the discipline concerned.

Posts at Sr. No. 4.

At least M.Sc. second class and ability to handle X-ray Apparatus.

bus, Tissue Culture work, raising of aseptic cultures etc.
Post at Sr. No. 5.

(i) B.A.

(ii) At least five years office experience in a Science Laboratory and ability to supervise the work of subordinate staff;

(iii) Knowledge of shorthand and type will be preferred.

Persons already in service, should route their applications through their employers.

Application forms can be obtained from the office of the Finance & Development Officer, Panjab University, Chandigarh by making a written request accompanied with a self-addressed stamped envelope of 23 x 10 cms.

UNIVERSITY OF SAUGAR SAUGAR

Invites applications for the post of RESIDENT MANAGER, HOSTELS in the scale of Rs. 400.40-800.50-950 with usual benefits of D.A. and P.F. as per University Rules. Higher starting pay can be considered if experience and pay already drawn so warrant. The University will also provide free unfurnished married accommodation.

Applicants should have experience of management and administration.

The age of retirement is sixty years. Retired army officers are eligible.

Applications on plain paper giving details of their qualification and experience should reach the undersigned by 18th December, 1972.

Col. H. S. Chandele,
Registrar,
University of Saugar."

SAMBALPUR UNIVERSITY SAMBALPUR

Advertisement

No. 23885/TDS

Dated, 22-11-1972.

Applications in the prescribed forms with attested copies of Marksheet and certificates

of all the Examinations passed are invited for the following posts of the Post-Graduate departments of this University.

1. Name of the Departments: Biological Sciences.

Name of the Posts: Reader.

No. of posts: One.

2. Name of the Departments: Political Science.

Name of the posts: Lecturer.

No. of posts: One.

II. Scale of Pay: (i) Reader Rs. 700.50-1250/-. (ii) Lecturer: Rs. 400.40-800.50-950.

III. Age of Retirement: Sixty years of age.

IV. Qualification Essential:

(a) Reader in Biological Sciences.

(i) A Second Class Master's Degree in Zoology with at least 48% of marks.

(ii) Eight years of teaching experiences in a college or University.

(iii) Ph.D. Degree or Research work of equivalent standard.

(iv) Capacity to guide research Post-graduate teaching experience will be regarded as additional qualification.

(b) Lecturer in Political Science.

(i) At least a Second Class Master's Degree in the subject with at least 48% of marks.

(ii) Preference will be given to the candidates having at least two years of teaching/Research experience.

V. Qualification Desirable:

(1) Reader in Biological Science: Preference will be given to the candidates having specialisation in:

(i) Animal Physiology
(ii) Bio.Chemistry

(2) Lecturer in Political Science: Preference will be given to the candidates who can teach:

(i) Advanced Political Theory.

(ii) International Politics

(iii) Comparative Government and who can teach more than one branch of the subject.

All the posts carry usual dearness allowance as would be sanctioned by the University from time to time.

Candidates for the post of Reader should mention whether they are willing to be considered for the post of Lecturer if required to do so and in that case they should mention the minimum salary acceptable to them.

Seven copies of the application forms will be supplied from the University office to each candidate in person on cash payment of Rs. 2 (Rupees two) only. Candidates intending to receive forms by post are required to send (a) cross Indian Postal Order of Rs. 2/- payable to the Finance Officer, Sambalpur University, Sambalpur and (b) a self-addressed envelope (23 cm x 10 cm) with postage stamp worth Rs. 2/- affixed to it with the words 'APPLICATION FORM FOR THE TEACHING POSTS IN THE SAMBALPUR UNIVERSITY' superscribed on it. Money Order/Cheque will not be entertained.

The last date of receipt of application in the office of the University, Budharaja Hills, Sambalpur (Orissa) is 18th December, 1972.

All communications should be addressed to the undersigned by designation only.

The selected candidates must join within two months from the date of the issue of appointment order. The candidates will be required to appear for an interview at their own expenses before a Selection Committee.

Suitable persons may be appointed on contract basis on a higher initial start if it is deemed desirable in the interest of the University.

(S. Sahu)

REGISTRAR,

SAMBALPUR UNIVERSITY

**REGIONAL ENGINEERING
COLLEGE, NASEEMBAGH
SRINAGAR, KASHMIR**

Advertisement Notice No. 13/72

Applications are invited for the following posts on the prescribed application forms obtainable from the Registrar of this College on receipt of postal order for Re. 1/-.

1. PROFESSORS: Scale Rs. 1100-50-1300-60-1600.

(i) Mechanical Engineering (one); (ii) Chemical Engineering (one); (iii) Mathematics (one).

Minimum Qualifications: 1st class Master's degree in the discipline with about ten years teaching/Industrial/Research experience.

Desirable Qualifications: Doctorate degree or published work of similar standard/experience of heading a department and guiding research.

2. ASSISTANT PROFESSORS: Scale Rs. 700-40-1100-50-2-1250 (i) Chemical Engineering (two posts, one temporary).

Minimum Qualifications: 1st class Master's degree in the discipline with five years teaching/Industrial/Research experience.

Desirable Qualifications: Doctorate degree or published work of similar standard.

Field of specialization: in any one of the following.

(a) Thermodynamics and Kinetics (b) Instrumentation and Control, (c) Fluid Mechanics, (d) Mass Transfer, (e) Heat Transfer.

(ii) Chemistry (two posts, one temporary)

Qualifications: A good post-graduate research degree preferably Ph.D. Chemistry with at least five years teaching experience at advanced level in the subject.

The temporary post is reserved for physical Chemistry with teaching experience in advanced Thermodynamics and Chemical Kinetics.

Last date for receipt of applications on the prescribed form in the College is 10th December, 1972. Persons already working in Government/Semi Government departments should apply through proper channel.

UNIVERSITY OF JODHPUR

(Establishment Branch)

Advertisement No. 7/72

Applications are invited for the following posts:

LECTURER IN FRENCH:

Scale of Pay: Rs. 400-40-800-50-950.

Qualifications: (a) Essential (i) A first or second class Master's Degree in French or Diploma in French with at least a second class M.A. English or an Indian Literature (ii) Experience in teaching French (iii) Proficiency in translation from and into French. (b) Desirable: (i) Knowledge of additional languages (state of proficiency) (ii) Experience in journalism or critical writing.

LECTURER IN HOME SCIENCE: (Two).

Scale of Pay: Rs. 400-40-800-50-950.

Qualifications: Essential: A first class Master's Degree in the subject or second class Master's Degree or second class Master's Degree with three years experience of teaching degree classes.

Qualifications as mentioned above may be relaxed in cases of candidates who are otherwise found suitable. Higher starting salary is possible to exceptionally qualified candidates. The post carries allowances as may be admissible under the University rules from time to time. Number of posts may be increased or decreased according to requirement at the time of appointment.

Application forms can be obtained from the undersigned for which a crossed Indian Postal Order for Rs. 2/- endor-

ed in favour of the Registrar, Jodhpur University payable at Jodhpur be sent along with a self-addressed envelope of 24 x 11 cms. bearing postage stamp of 35 paise + 0.05 paise = 0.40 paise. The last date for receipt of applications is 20 Dec. 72. The Vice-Chancellor may at his discretion condone delay in receipt of application.

Registrar,

JIWAJI UNIVERSITY

GWALIOR

Advertisement

Applications are invited for a permanent post of University Engineer in the pay scale of Rs. 500-25-700-30-1000 with benefits of the University Provident Fund as per rules.

Qualifications/Essential:

Diploma in Civil Engineering with 15 years' experience of building construction.

OR

Degree in Civil Engineering with 5 years' experience of building construction.

Preference will be given to those who have worked with a reputed architect.

Higher initial start upto Rs. 700. would be admissible to well qualified and experienced candidates.

Age: Age not more than 57 years on 1st Nov., 1972. Applications on prescribed form to be obtained from the University Office at a cost of Re. 1/- should reach the undersigned by 15-12-72 with a fee of Rs. 7.50. The payments are to be made by crossed postal order in favour of the Registrar, Jiwaji University at the city Post Office, Gwalior. Applications should be sent through proper channel in cases of candidates already employed. Selected candidates will normally be required to join within fifteen days of their selection. Candidates will be required to attend the interview at their own expenses.

A. K. BHATTACHARYA,
Registrar.

NEW TEXT BOOKS IN ENGLISH FROM THE USSR AVAILABLE IN INDIA

1. **Central Asia in The Kushan Period**
Vol. I, pp. 590, Vol. II, pp. 530—both volumes
Rs. 19.00
(Nauka Publishing House, Moscow).
2. **Lectures on the Theory of Probability**
Yu. A. Rozanov, pp. 114, Rs. 30.00
(Statistical Publishing Society, Calcutta)
3. **Philosophical Thoughts in Independent India**
A.D. Litman, pp. 320, Rs. 6.55
(Nauka Publishing House, Moscow).
4. **Physical Chemistry**
V. Kireev, pp. 572, Rs. 11.50
(Mir Publishers, Moscow)
5. **Physical Chemistry of Polymers**
A. Tager, pp. 558, Rs. 10.55
(Mir Publishers, Moscow)
6. **Political Economy (A condensed course)**
L. Leontyev, pp. 292, Rs. 1.95
(Progress Publishers, Moscow)
7. **Science in The USSR**
pp. 560, Rs. 12.00
(Progress Publishers, Moscow)
8. **Semi Conductors: Testing & Adjusting**
G. Green & A. Shokalsky, pp. 205, Rs. 4.80
(Mir Publishers, Moscow)
9. **Socialism & Capitalism—Score & Prospects.**
pp. 290, Rs. 3.40.
10. **Sociology of Revolution—A Marxist View**
Yuri Krasin, pp. 264, Rs. 1.50
(Progress Publishers, Moscow)
11. **Strength of Materials**
R. Kinashev, pp. 360, Rs. 5.75
(Mir Publishers, Moscow)
12. **The World Socialist System**
Shalva Sanakoyev, pp. 410, Rs. 3.75
(Progress Publishers, Moscow)

MAIN DISTRIBUTORS

People's Publishing House (P)
Ltd.,
Rani Jhansi Road, New Delhi-
55.

People's Book House,
Piramshah Manzil,
Relief Road, Ahmedabad.

Progressive Book House,
Shillong Road, Panbazar,
Gauhati.

National Book Agency (P) Ltd.,
12, Bankim Chatterjee Street,
Calcutta.

NCBH (P) Ltd.,
6/30, Mount Road, Madras,
Madurai, Coimbatore,
Tiruchirappalli, Tanjaur.

Prabhath Book House,
Trivandrum, Ernakulam,
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Udyogmandala, Quilon.

Visalandhra Book House,
Elura Road, Vijayawada-2.

Visalandhra Book House,
Sultan Bazar, Hyderabad.

People's Book House,
Opp. Patna College, Patna.

People's Book House,
Hazari Bagh Road, Ranchi.

Navakarnataka Publications,
Bangalore-9.

Nabajuga Granthalaya,
Rajrahbati Road, Cuttack.

PPH Book Stal.,
100-B, Khetwadi Main Road,
Bombay-4.

Manisha Granthalaya (P) Ltd.,
43-B, Bankim Chatterjee St.,
Calcutta.

The Modern Book Depot,
G.S. Road (P. Box No. 68),
Shillong-1.

Himachal Book Centre,
2, Mall, Simla.

Punjab Book Centre,
1940, Sector 22-B, Chandigarh.

New Age Book Centre,
Near Chowk State Bank of
India, Ghee Mandi, Amritsar.

Punjab Book Centre,
Post Office Road, Jullundur.

Progressive Book Depot,
Motia Park, Sultania Road,
Bhopal.

Kitab Ghar,
Chaura Rasta, Jaipur.

Chetna Book Centre,
1, New Market, Hazratganj,
Lucknow.

A SELECT LIST OF OUTSTANDING PUBLICATIONS FROM BOWKER PUBLISHING COMPANY LTD. 1972-73

THE ALMANAC OF WORLD MILITARY POWER (2nd Ed.)	£ 1.25/360pp/Sept. 1972
AN INTRODUCTION TO LIBRARIANSHIP	£ 2.50/400pp/1970 (Updated reprint)
BOOK SELECTION AND COLLECTION DEVELOPMENT IN ACADEMIC LIBRARIES	In Press/Spring 1973
BOOKS IN PRINT 1972—AN AUTHOR—TITLE INDEX TO THE PUBLISHERS' TRADE LIST ANNUAL (2 Vols.)	£ 22.25/Authors Index 3,100pp; Titles Index 2,500pp/Oct. 1972.
BOWKER SERIALS BIBLIOGRAPHY SUPPLEMENT 1972 (1st Ed.)	£ 6.00/Fall 1972
BOWKER'S MEDICAL BOOKS IN PRINT 1972 (Annual)	£ 11.25/725pp/May 1972
CURRENT PROBLEMS IN REFERENCE SERVICE	£ 5.00/166pp/1971
DEVELOPING MULTI-MEDIA LIBRARIES	£ 5.00/199pp/1970
INTERNATIONAL BIBLIOGRAPHY OF DIRECTORIES (5th Ed.)	In Press/Spring 1973
IRREGULAR SERIALS AND ANNUALS—AN INTERNATIONAL DIRECTORY (2nd Ed.)	£ 19.25/1,130pp/June 1972
LIBRARY PROBLEMS IN SCIENCE AND TECHNOLOGY	£ 5.00/1971
MAGAZINES FOR LIBRARIES (2nd Ed.)	£ 11.00/600pp/Oct. 1972
THE NEW LIBRARIANSHIP: A CHALLENGE FOR CHANGE	In Press/300pp/Dec. 1972
PROBLEMS IN ORGANIZING LIBRARY COLLECTIONS	£ 5.00/256pp/June 1972
PROBLEMS IN SCHOOL MEDIA MANAGEMENT	£ 5.00/245pp/1971
PUBLICATIONS OF THE UNITED NATIONS SYSTEM	£ 5.25/Oct. 1972
PUBLISHERS' TRADE LIST ANNUAL 1972 (6 Vols.)	£ 18.00/Sept. 1972
A REFERENCE GUIDE TO AUDIOVISUAL INFORMATION	In Press/200pp/Oct. 1972
RESEARCH LIBRARIANSHIP—ESSAYS IN HONOUR OF ROBERT B. DOWNS	£ 6.00/162pp/1971
THE SCHOOL LIBRARY—A FORCE FOR EDUCATIONAL EXCELLENCE	£ 5.50/386pp./1969
SCIENTIFIC AND TECHNICAL BOOKS IN PRINT 1972 (Annual)	In Press/2,500pp/Nov. 1972
SUBJECT GUIDE TO BOOKS IN PRINT 1972 2 Vols. (Annual)	£ 19.75/3,000pp/Nov. 1972.
TO IMPROVE LEARNING—AN EVALUATION OF INSTRUCTIONAL TECHNOLOGY	Vbl. 1 \$ 13.95/441pp/1970 Vbl. 2 £ 11.50/1,096pp/1971
TOMORROW'S LIBRARY—DIRECT ACCESS & DELIVERY	£ 5.75/200pp/1970
ULRICH'S INTERNATIONAL PERIODICALS DIRECTORY—2 Vols. (14th Ed.; Biennial)	£ 21.25/2,016/1971

NOTE: The dates of publication are shown as in U.K. or U.S.A.

Orders may be sent through your local bookseller or, in case of difficulty, direct to us. The books would be despatched per V.P.P./through Bank against payment. All prices are net, as there are short discount titles. The conversion rates are as follows: Pound Sterling—Rs. 20.00; U.S. Dollar—Rs. 8.00

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5 Daryaganj, Ansari Road, Delhi-6

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BANARAS HINDU UNIVERSITY

(Advertisement No. 32/1972-73)

APPLICATIONS are invited for the undermentioned posts. The benefit of Provident Fund/Pension, Dearness Allowance, House Rent Allowance and City Compensatory Allowance are admissible according to the University Rules. The retirement age of the University employees is 60 years. The appointment will be made on two years probation on all permanent posts. Higher starting salary within the grade is admissible to specially qualified and experienced candidates.

The prescribed form for application will be sent free of cost by the Dy. Registrar (Academic), Selection Committee Section, Banaras Hindu University, Varanasi-221005, along with the leaflet of information on receipt of a self-addressed envelope (9" x 4"). Applications for each post be sent separately with application fee of Rs. 7.50 remitted by Bank Draft/Crossed I. P. O. in favour of the Registrar, Banaras Hindu University and be addressed to the Registrar, Selection Committee Section, Banaras Hindu University, Varanasi-221005. M. O. or Cheque will not be accepted towards application fee. Candidates called for interview will be paid Second Class Railway fare both ways by the shortest route. No other expenses will be paid. The last date for the receipt of application is 10th January, 1973.

INSTITUTE OF TECHNOLOGY

1. HEAD OF THE UNIT Grade : Rs. 1100-50-1300-60-1600.

Qualifications Essential : (1) High academic attainments in the field of Engineering and/or Technology. (2) About ten years experience of teaching/research/industry. (3) Administrative experience preferably in an Educational Institution of repute.

Note : (1) Job requirements include assistance to Director, Institute of Technology in general administration.

(2) Essential qualifications relaxable in case of candidates otherwise found well qualified.

2. READER IN ENGINEERING DRAWING : Grade : Rs. 700-50-1250

Qualifications Essential : (1) A first or second class Master's Degree in the subject or an equivalent qualification. (2) A Doctorate Degree and/or published work of a high merit in reputed journals. (3) About 5 years experience in teaching/research/industry. **Desirable :** (1) Research publications in standard journals. (2) Membership of Professional bodies/Learned Societies. (3) Evidence of original work in Design/Development.

3. READER IN APPLIED MATHEMATICS : Grade : Rs. 700-50-1250.

Qualifications Essential : A first or second class Master's Degree in the subject or an equivalent qualification. (2) A Doctorate Degree and/or published work of a high merit in reputed journals. (3) About 5 years experience of Postdoctoral research and/or teaching at a University or College preferably in an Engineering/Technology Institution. (4) Experience of guiding research. **Desirable :** (1) Membership of Professional bodies/learned societies.

4. LECTURER IN MECHANICAL ENGINEERING (Three) Grade Rs. 400-40-800-50-950

Qualifications Essential : (1) A First or Second class Master's Degree in the subject or an equivalent qualification. **Desirable :** (1) Experience of teaching Research Industry.

Note : Those who have responded to our earlier Advertisement No. 20/1972-73 (Item No. 55) need not apply again.

5. LECTURER IN APPLIED MATHEMATICS

6. LECTURER IN APPLIED PHYSICS

7. LECTURER IN APPLIED CHEMISTRY Grade : Rs.400-40-800-50-950.

Qualifications Essential : (1) A first or second class Master's Degree in the subject or an equivalent qualification. **Desirable :** (1) Aptitude for research as indicated by published work. (2) Doctorate Degree in the subject and/or some experience in Teaching/Research/Industry

8. LECTURER IN ENGINEERING DRAWING Grade : Rs.400-40-800-50-950.

Qualification Essential : (1) A first or second class Master's Degree in Mechanical Engineering with specialization in Drawing. **Desirable :** (1) Experience in Teaching/Research/Industry.

9. LECTURER IN ELECTRICAL ENGINEERING Grade : Rs.400-40-800-50-950.

Qualifications Essential : (1) A first or High Second class Master's Degree in Electrical Engineering with specialization in Electrical Measurements and Measuring Instruments. *Desirable :* (1) Experience in teaching/Research/Industry. (2) Experience in Electronic Instrumentation.

10. LECTURER IN PHARMACOGNOSY Grade : Rs.40-400-800-50-950.

Qualification Essential : (1) A first or second class M. Pharm. Degree with specialization in Pharmacognosy. *Desirable :* Teaching Research and Field experience.

FACULTIES OF SCIENCE & HUMANITIES

11. PROFESSOR OF EDUCATION (Faculty of Education) Grade : Rs.1100-50-1300-60-1600.

Qualifications Essential : (1) A first or second class Master's Degree in Education or an equivalent qualification with Master's Degree in any other subject. (2) A Doctorate Degree or published work of a high standard in the subject. (3) About 10 years experience of Post-doctoral research and/or of teaching in an institution of eminence or University. (4) Ability to guide research of a high standard.

12. PROFESSOR OF ENTOMOLOGY (Faculty of Agriculture) Grade : Rs.1100-50-1300-60-1600.

Qualifications Essential : (1) A first or second class M.Sc. degree in Agriculture or Zoology or Agricultural Zoology with specialization in Entomology/Agric. Entomology or an equivalent qualification in the subject. (2) A research degree of a Doctorate standard and/or published work of a high standard in reputed journals. (3) About 10 years experience of Post-doctoral research and/or of teaching at a University or College. (4) Experience of guiding research of a high standard. *Desirable :* (1) Experience of organising/guiding research project in the field of Entomology.

13. READER IN PSYCHOLOGY (Specialization in Clinical and Abnormal Psychology) (Faculty of Social Sciences) Grade : Rs.700-50-1250.

Qualifications Essential : (1) A first or second class Masters Degree in the subject or an equivalent qualification. (2) A Doctorate Degree and/or published work of a high merit in reputed journals. (3) About 5 years experience of Post-doctoral research and/or of teaching at a University or College. (4) Experience of guiding research.

14. READER IN ECONOMICS (Faculty of Social Sciences) Grade : Rs. 700-50-1250.

Qualifications Essential : (1) A first or second class Master's Degree in the subject or an equivalent qualification. (2) A Doctorate Degree and/or published work of a high merit in reputed journals. (3) About 5 years experience of post-doctoral research and/or of teaching at a University or College. (4) Experience of guiding research. *Desirable*—Ability to teach through Hindi Medium.

Note : Higher start within the grade is admissible to a deserving candidate for this post of Reader in Economics.

15. LECTURER IN MARATHI (Two) (Faculty of Arts)

16. LECTURER IN AGRONOMY (Faculty of Agriculture)

17. LECTURER IN MATHEMATICS (Faculty of Science)

18. LECTURER IN TELUGU (Faculty of Art) Grade : Rs. 400-40-800-50-950.

Qualifications Essential : (1) A first or second class Master's Degree in the subject or an equivalent qualification.

Desirable : (1) Aptitude for research as indicated by published work. (2) Doctorate Degree in the subject and or some teaching experience.

Note : Preference will be given to a Lady candidate for the post of Lecturer in Telugu.

19. LECTURER IN JAIN PHILOSOPHY & LOGIC (Faculty of Oriental Learning. Theology) Rs. 400-40-800-50-950.

Qualifications Essential : (1) A first or second class Shastracharya or Acharya Degree in the subject or an equivalent

Qualification. Desirable : (1) Teaching experience of Madhyama, Shastri and Acharya classes in a recognised Institution. (2) Knowledge of Nyaya. (3) Aptitude for research as indicated by published work.

INSTITUTE OF MEDICAL SCIENCES

20. READER IN SURGERY (Plastic Surgery) (Deptt. of Surgery) Grade : Rs 700-50-1250 plus N. P. A. @ Rs. 400 - p.m.

Qualifications Essential : (1) M.B.B.S. or equivalent qualification recognised by the Medical Council of India. (2) M.S. (Surgery), F.R.C.S. or equivalent qualifications in Surgery recognised by the Medical Council of India. (3) M.S. in Plastic Surgery or experience of working in a Plastic Surgery Unit for 2 years. (4) About three years teaching Experience as lecturer in surgery or plastic surgery in teaching Medical Institution. **Desirable :** (1) Experience of working in Organ Transplantation Unit. (2) Research experience and publications in the Speciality.

21. AUDIOLOGIST (Deptt. of E.N.T.) Grade : Rs. 400-40-800-50-950 plus N.P.A. @ Rs. 300 - p.m. admissible to Medical Graduates only.

Qualifications Essential : (1) M.B.B.S. with M.S. (E.N.T.) or equivalent medical qualifications recognised by the Indian Medical Council OR B.Sc. (Speech & Hearing) with M. S. (Audiology) of a recognised Indian or a foreign University OR Graduate qualification in Electronic Engineering preferably with Master's Degree and with adequate knowledge of Hearing aids, audiometers and acoustic instruments. (2) Ability to write and speak Hindi fluently. **Desirable :** (1) Experience of working as an audiologist in the E.N.T. Department of a Medical College and Hospital. (2) Research work in Audiology.

Note : Candidate with qualifications and experience in Electronic Engineering as mentioned above will be given Preference.

CENTRAL HINDU SCHOOL, VARANASI

22. PRINCIPAL Grade : Rs. 700-40-980-EB-40-1100.

Qualifications Essential : (1) A first or second class Master's Degree or an equivalent qualification. (2) Degree or Diploma in Teaching. (3) Three to five years experience in Educational Administration including teaching experience preferably in a Public School, Intermediate College or any Secondary School or in a Teacher's Training Institution OR About 5 years Teaching experience in recognised High/Higher Secondary Schools or Public Schools.

23. TEACHER IN PHYSICS Grade : Rs. 300-25-600.

Qualifications Essential : (1) A first or second class Master's Degree in Physics or an equivalent qualification in the subject. **Desirable :** (1) University Degree or Diploma in Teaching. (2) Adequate experience of teaching the subject in a College or Higher classes in a High/Higher Secondary School. (3) Well versed in extra curricular activities.

My gentle Jumbo

**carries you with love
and tenderness**



my 747s are big.
very big and very gentle.
aboard are soft-voiced
silken maidens, waiting to
serve you choose from

continental
cuisine, indian
pulaos and
curries. order
your favourite
from my
wine list



gourmet meals and wine lists
aboard my jumbo

ask for your baby's
feed. you have only to ask.



gentle maidens look after you

up a spiral stairway
is my maharajah
lounge. a jewelled
handmaiden smiles
in her costume
unique.

my 747 has a
choice of films*

and seven channels of
music* at your elbow.
tune in to the soft strains
of a flute recital,
a symphony, pop music.



music—meets at soul.
aboard my jumbo

fly with me in my
palace. at the same price
as an ordinary aeroplane

AIR-INDIA
the airline that loves you

* At a small fee provided by IATA

